EFFECT OF PROGRESSIVE MUSCLE RELAXATION THERAPY IN REDUCING ANXIETY AMONG THE ELDERLY RESIDING IN SELECTED OLD AGE HOMES AT THIRUVANANTHAPURAM DISTRICT, KERALA

A DISSERTATION SUBMITTED TO THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

APRIL 2011

A STUDY TO ASSESS THE EFFECT OF PROGRESSIVE MUSCLE RELAXATION THERAPY IN REDUCING ANXIETY AMONG THE ELDERLY RESIDING IN SELECTED OLD AGE HOMES AT THIRUVANANTHAPURAM DISTRICT

APPROVED BY THE DISSSERTATION COMMITTEE ON : **15-09-2009**

RESEARCH GUIDE :

Prof.(Mrs).SANTHI APPAVU, M.Sc(N), M.Phil(N)
PRINCIPAL, & HEAD OF THE DEPARTMENT OF MEDICAL-SURGICAL NURSING
CHRISTIAN COLLEGE OF NURSING, NEYYOOR.
KANYA KUMARI DISTRICT.

CLINICAL GUIDE :

Prof.(Mrs).S.L.Diana, M.Sc(N)
VICE-PRINCIPAL& HEAD OF THE DEPARTMENT OF COMMUNITY HEALTH NURSING
CHRISTIAN COLLEGE OF NURSING, NEYYOOR.
KANYA KUMARI DISTRICT.

MEDICAL GUIDE :

DR. BLESSED SINGH, M.B.B.S., M.D,
ASSOCIATE PROFESSOR,
DR. S.M.C.S.I MEDICAL COLLEGE, KARAKONAM,
THIRUVANANTHAPURAM DISTRICT.

A DISSERTATION SUBMITTED TO THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

APRIL 2011

A STUDY TO ASSESS THE EFFECT OF PROGRESSIVE MUSCLE RELAXATION THERAPY IN REDUCING ANXIETY AMONG THE ELDERLY RESIDING IN SELECTED OLD AGE HOMES AT THIRUVANANTHAPURAM DISTRICT, KERALA

Submitted in partial fulfillment of the requirement for the degree of Master of Science in Nursing to the Tamil Nadu, Dr. M.G.R. Medical University, Chennai.

---------- ----------

Internal Examiner External Examiner

APRIL 2011

CERTIFICATE

Certified that the thesis titled **"A Study to Assess the Effect of Progressive Muscle Relaxation Therapy in Reducing Anxiety Among the Elderly Residing in Selected Old Age Homes at Thiruvananthapuram District, Kerala"**, is a bonafide work by Teena.S., II Year M.Sc Nursing student of Christian College of Nursing, Neyyoor in partial fulfillment of requirements for the degree of Master of Science in Nursing.

Date: **Signature of Principal**

DECLARATION

Investigator, II Year M.Sc Nursing student of Christian College of Nursing, Neyyoor do hereby declare that this thesis, **"A Study to Assess the Effect of Progressive Muscle Relaxation Therapy in Reducing Anxiety Among the Elderly Residing in Selected Old Age Homes at Thiruvananthapuram District, Kerala"**, has not been submitted by me for the award of any degree, diploma, title or recognition before.

Neyyoor. Investigator

ACKNOWLEDGEMENT

"He has made everything beautiful in this time". Ecclesiastes 8:17

I owe a great many thanks to a great many people who helped and supported me to the successful completion of this study. I am greatly indebted to the following,

The **omnipresent God,** for giving me the strength to plod on and for answering my prayers.

Adv.S.Sunder Singh, B.Sc. B.L., Correspondent, Christian College of Nursing, Neyyoor for the support and encouragement, he extended for this study.

Prof. (**Mrs.) Santhi Appavu,** M.Sc(N), M.Phil.(N), Principal, Christian College of Nursing, Neyyoor for her constant help, kind concern and guidance.

Mrs. S.LDiana, MSc.(N),Vice-Principal, Christian College of Nursing, Neyyoor my guide, whose sincerity, encouragement, tireless effort, positive reinforcement, affectionate support and critical inputs helped me to finish this study successfully.

Dr. Blessed Singh, MBBS, MD, Assisstant Professor, Dr. S.M C.S.I Medical College Karakonam, for his timely help and suggestions.

Prof. Arumugam, B.Sc., M.A., M.P.S., P.G.D.C.A., for his meticulous effort in enriching the coherence of statistical analysis of the study.

Mrs. Pramila, M.S. I.S.C., M. Phil and **Mr. Ganadhansan,** C.O.T, D.O.T for the timely help rendered in collecting the literature.

The experts, **Dr. Christina**, Psychiatrist, **Dr.Blessed Singh**, MBBS, MD, **Mrs.Beena**, Clinical Psychologist, **Mrs. Y.V.Suja Baby** RN.RM, **Mrs. Margret** RN.RM who devoted their valuable hours in validating the tool and solving my doubts and providing attention and guidance in various stages of study.

The **entire faculty** of Christian College of Nursing, Neyyoor for giving me words of advice and encouragement during the course of this study.

My **class-mates** for helping me in developing the project and who have willingly helped me out with their abilities even at odd times.

The P**articipants** of the study, who were the heart of my study without which I couldn't do anything.

Mini Internet and Computer Centre for the excellent work and untiring patience in preparing the manuscript.

My parents Mr. **J.Sudhakaran** and **Mrs. Sobhana. S,** brother **Mr.Umesh.S** and loving daughter **Anugraha.T.J** for inspiring me as I hurdle all the obstacles in the completion of this research work. They gave me strength to go on and to cope with my struggle and frustrations They were always considerate, caring and confident in putting me in the right perspectives.

My husband **Mr.Jiji.J.C,** who is resting in the arms of Lord Jesus Christ, would be helping me unless and until called by God Almighty.

I extend thanks to the **various people** who have shared their opinions and experiences through which I received the required information crucial for my study.

LIST OF CONTENTS

Table continues…

…Table continued

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

A study to assess the effect of Progressive Muscle Relaxation therapy in reducing anxiety among the elderly residing in selected old age homes at Thiruvananthapuram district, Kerala was conducted in partial fulfillment of the requirement for the degree of Master of Science in Nursing during the year 2011, Christian College of Nursing, Neyyoor, which is affiliated to Tamilnadu Dr. M.G.R. Medical University, Chennai .

The following objectives were set for the study

1) to assess the degree of anxiety among elderly in experimental and control group before Progressive Muscle Relaxation therapy.
2) to assess the degree of anxiety among elderly in experimental group and control group after administration of Progressive Muscle Relaxation therapy in the experimental group.
3) to compare the degree of anxiety among elderly in experimental and control group after administration of Progressive Muscle Relaxation therapy in the experimental group.
4) to associate the degree of anxiety among elderly before Progressive Muscle Relaxation therapy with the selected demographic variables such as age, sex, education, previous occupation, marital status, dietary pattern, hobby, religion and duration of stay in the old age home.

The study was based on Callista Roy's Adaptation model (1984). The design adopted for this study to assess anxiety among the elderly in the old age home was pretest post test control group design. The investigator framed the tools.

The feasibility of the study and the refinement of tools were assessed through a pilot study. The tool taken for the study was questionnaire and Zung's Self Rating Anxiety Scale. The data collection for the main study was done from May 15th to June 26th, 2010. The study was conducted in old age homes at Valiavilai and Mukkolai in Thiruvananthapuram. Convenience sampling technique was adopted for selection of subjects. The target population selected for the study was all the elderly in the old age homes who met the inclusion criteria. Data were analyzed by using descriptive and inferential statistics.

Major findings of the study are summarized as follows

- Regarding the age of the elderly, 9(30.3%) were in the age group of 55-59, 16(53.3%) were in the age group of 60-65,and 5 (16.7%) were in the age group of 65-69.
- With respect to sex, 80% of the elderly were males compared to females which are 20%.
- About 33.3% of elderly were having primary school education.
- With respect to previous occupation 50% elderly were Government employees and only 6.7% were unemployed.
- Regarding marital status, 2(6.7%) elderly were separated, 3(10%) were unmarried, 5 (16.7%) were widow and 18(60%) were widower.
- Most of the elderly, 27(90%) were non-vegetarian.
- With respect to hobby only 25(83.3%) elderly were having hobbies.
- Majority, 29(96.7%) elderly were Hindus regarding the religion.
- Regarding the duration of the stay in the old age homes, 23(76.7%) elderly were having more than one year of stay.

- The anxiety among the elderly in the experimental group before Progressive Muscle Relaxation therapy was mild to moderate 40% (12) and the anxiety among elderly in the control group was mild to moderate 36.7% (11) and severe 63.3% (19).
- The assessment of anxiety between the experimental and control group after Progressive Muscle Relaxation therapy revealed that 4 (13.3%) elderly were having normal anxiety level, 25(83.4%) were having mild to moderate level of anxiety and 1(3.3%) were having severe degree of anxiety. But at the same time the control group elderly had anxiety level as mild to moderate 40% and as severe degree of anxiety 60%. The level of anxiety was considerably reduced among the experimental group than the control group.
- The mean anxiety of experimental group before Progressive Muscle Relaxation therapy was 59.8 ± 7 and the same after Progressive Muscle Relaxation therapy was 51.2 ± 5.4.The anxiety that was reduced from before Progressive Muscle Relaxation therapy to after therapy was statistically very highly significant ($t=8.734$, $d.f=29$ and $P< 0.001$).But in the control group the anxiety was 60.2± 6.4 and 60.1 ± 6 in pre test and post test respectively. The reduction of anxiety was not statistically significant ($P > 0.05$).

Recommendations

Based on the findings of the study, recommendations for future study are:

- the study can be conducted with large number of samples for better generalization.
- the study can be replicated with samples of different age groups other than elderly.
- the study can be done at different settings.
- a comparative study can also be done to see the effectiveness of progressive muscle relaxation therapy and other relaxation technique in reducing anxiety among the elderly.

CHAPTER - I

INTRODUCTION

"Years wrinkle the skin, but worry, doubt, fear, anxiety and self distrust wrinkle the soul"

The urge to live, the fear of death, the desire for youth ,distaste for old age and quest for rejuvenation have always interested mankind. Ageing, which is an inescapable reality of the human existence on the planet earth, plays a crucial role in the global demographic transition.

Ageing is a universal, inevitable social and a scientific challenge confronting mankind. Every organism born, ages with time and then decay. There is no one who would not grow old. Every being on the earth inevitably follows the cycle, determined by nature that takes him/her through the variegated phases of childhood, adolescence, adulthood and maturity.

Ageing is a phase of life and a biological process which cannot be postponed indefinitely. The people who lived past sixty years of age are commonly known as aged or elderly. They are also considered as persons in the "third age". Old age is the closing period of lifespan (Harlock). Each grey hair can be considered as the reservoir of knowledge and experience.

In the words of Seneca; 'Old age is an incurable disease", but more recently, Ross commented: "You do not heal old age. You protect it; promote it; you extend it". Therefore old age should be regarded as a normal, inevitable, biological phenomenon.

Graying population is one of the most ‘significant characteristics’ of the 20th century and the first quarter of the 21st century is known as the “age of ageing”. Along with the world population, Indian elderly are also “ageing in old age”.

Anxiety can affect anyone at any age, and the elderly are of no exception. Senior citizens face numerous anxiety-inducing issues, including health problems, loss of close friends and their life transitions such as moving to a nursing home (Langton, 2009).

Anxiety is a distressing, unpleasant state of nervousness and uneasiness; its causes are obscure. Anxiety is less tied to the exact timing of a threat; it can be anticipatory before a threat occurs, persist after a threat has passed, or occur without an identifiable threat. Anxiety is often accompanied by physical changes and behaviors similar to those caused by fear.

Some degree of anxiety is adaptive; it can help people to prepare, practice, and rehearse so that their functioning is improved, and it can help them be appropriately cautious in potentially dangerous situations. Beyond a certain level, anxiety is maladaptive, causing undue distress and dysfunction. At such a level, anxiety can be considered a symptom of a disorder.

Anxiety is frequently considered as a normal part of getting old. Along with becoming frailer, getting more aches and pains and starting to lose a few brain cells, anxiety is up there with stuff old people just ‘get’ (Kennard, 2007).

Anxiety in the elderly occurs most commonly in a wide range of physical disorders and in mental disorders other than primary anxiety disorders. Less often,

the elderly have a primary anxiety disorder; anxiety is the predominant symptom of primary anxiety disorders.

Late-life anxiety disorders have been underestimated for several reasons, because older patients are less likely to report psychiatric symptoms and more likely to emphasize their physical complaints, and some major epidemiological studies have excluded Generalized Anxiety Disorder, one of the most prevalent anxiety disorders in older adults. Often the elderly are reluctant to report psychiatric problems (Lang and Stein, 2001).

According to the Anxiety Disorders Association of America, “anxiety is as common in the old as in the young, and although how and when it appears is distinctly different in older adults” (Lisa, 2009).

Anxiety in the elderly is rather common and presents its own challenges but it is perfectly treatable. For centuries, cultures have incorporated strategies that recognize the power of engaging the mind in the process of healing.

In this century, relaxation training (RT) is a skill that has been repeatedly validated by nursing, medical and psychology researchers as a complementary intervention that is effective for a wide range of clinical situations. Relaxation can be employed by nurses and patients to offset the negative effects of stress, illness, and surgery while promoting healing. Relaxation techniques such as deep breathing, visualization, progressive muscle relaxation, meditation, and yoga helps relaxation response.

"Encouraging the use of routines, exercise and activity, and socialization may be useful. Relaxing activities and hobbies should be encouraged. Gardening,

fishing, art, and music are particularly relaxing for some older adults," says Grossberg (2009).

In fact few studies are available to indicate the benefits of psychological treatments for anxiety in the elderly. In principle there is every reason to support that seniors would respond as positively as the rest of the population. Case studies indicate that psychotherapy can be effective up to the mark and including the early stages of dementia (Johnson, 1991).

Every minute about 23 Indians become old (Mat and Taha, 2003). Today, one in every 10 persons is 60 years or older (Hareyan, 2006).

According to global population, 1.2 billion people will be above 60 years by 2020 and 71% will be in developing world. According to projections by the UN Population Division, there will be two elderly persons for every child in the world by 2050. This implies that the aged 60 and above, which currently constitute less than 20% of the population will account for 32% of the population by 2050.

More than half of the world's elderly population lives in the Asia-Pacific region. From a 52% distribution in Asia for 2000, the distribution of the aged population in 2050 is projected to be 63% in Asia (Chakraborti, 2004). The largest numbers of elderly persons in Asia are in China, followed by India, Japan, and several other countries.

In India, there were 76 million elderly individuals in 2001 and that number is expected to swell up to 327 million by 2010. Also, 4/5^{ths} of the elderly live in rural India.

In Kerala, 10.2% of total population was elderly in the year 2001 and by 2021 they will be 16%.

Anxiety may be the most common mental disorder experienced by older adults, affecting as many as 10 to 20 percent of the older population, although it is often undiagnosed and often goes hand-in-hand with depression (Bhatia).

A large study published in the American Journal of Psychiatry (Beekman, 1998) found that 10 percent of adults of 55 to 85 years of age had elderly anxiety disorders—the same prevalence as for other age groups.

It was once believed that anxiety disorders waned with age and time, but studies found this is not necessarily true. Overseas research found that anxiety symptoms were present in 20% of community dwelling elders (Bailey, 2006).

Grzywacz and colleagues from Wake Forest University School of Medicine reported in the Journal of Alternative and Complementary Medicine that 34.9 percent of people over 65 who had symptoms of anxiety or depression used Complementary or Alternative Medicine, compared to 26.5 percent of those without mental symptoms.

According to a recent study by the Anxiety Disorder Association of America, anxiety disorders cost the U.S. more than $42 billion a year. And more than $22.84 billion is associated with the repeated use of healthcare services, as those with anxiety disorders seek relief for symptoms that mimic physical illnesses.

NEED FOR THE STUDY

Late –life anxiety has a significant impact in terms of health care costs because it is often co morbid with physical problems for older adults, leading to multiple investigations and hospitalizations.

"Due to lack of evidence, doctors often think that this disorder is rare in elderly or that is a normal part of aging, so they don't diagnose or treat anxiety in older patients ,when infact, anxiety is quite common in elderly and can have a serious impact on quality of life" (Lenze).

The rapidly increasing world population of aged people has led to a growing need to focus researcher's attention on psychological problems in late life. The number of elderly living in nursing homes is expected to increase rapidly in parallel with the ageing of the population.

"Studies have shown that generalized anxiety disorder is more common in the elderly, affecting 7 percent of seniors, than depression, which affects about 3 percent of seniors. Surprisingly, there is little research that has been done on this disorder in the elderly," said Lenze.

About 20% of all elderly persons report some symptoms of anxiety (Brynes). According to ABC News, St. Louis, one in ten of our elderly suffers from diagnosed generalized anxiety disorder.

Caring for older people, once considered a problem only in Western nations, poses an interesting challenge for India. While the majority of older adults in India live with their children or other relatives, approximately 30% either have no family to live with or cannot live with the family they have (Ara, 1997). The decline of the

joint family is an important factor that has undermined the position and status of the older adults (Ramamurti and Jamuna, 1991; Bose, 1994).

Recently, the Government of India has enacted the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 for setting up of old age homes in every district of the country and for institutionalization of the mechanism for protection of life and property of the senior citizens. The concept of old age homes is not new in India as there were such facilities to care for destitute older adults as far back as the 18th century (Nair, 1995).Old age homes (as they are known in India) have begun to expand rapidly in most metropolitan cities in India.

I selected this study because the rate of anxiety disorders among adults aged 65 and above is higher among those who living at institutional settings such as old age homes and Progressive Muscle Relaxation have an effect in reducing anxiety. So I made a trial to rule out the effect of Progressive Muscle Relaxation therapy on anxiety among the elderly residing in old age homes.

STATEMENT OF THE PROBLEM

A study to assess the effect of Progressive Muscle Relaxation therapy in reducing anxiety among the elderly residing in selected old age homes at Thiruvananthapuram district, Kerala.

OBJECTIVES OF THE STUDY

1. To assess the degree of anxiety among elderly in experimental and control group before Progressive Muscle Relaxation therapy.

2. To assess the degree of anxiety among elderly in experimental group and control group after administration of Progressive Muscle Relaxation therapy in the experimental group.
3. To compare the degree of anxiety among elderly in experimental and control group after administration of Progressive Muscle Relaxation therapy in the experimental group.
4. To associate the degree of anxiety among elderly before Progressive Muscle Relaxation therapy with the selected demographic variables such as age, sex, education, previous occupation, marital status, dietary pattern, hobby, religion and duration of stay in the old age home.

HYPOTHESES

- There will be no significant association between the degree of anxiety and selected demographic variable of anxiety.
- There will be no significant association between Progressive Muscle Relaxation therapy and reduction in anxiety among the elderly.

OPERATIONAL DEFINITIONS

Effect

Effect is defined as a change which is a result or consequence of an action or other cause.

In this study effect refers to a decrease in post test anxiety score after Progressive Muscle Relaxation therapy.

Elderly

Elderly is defined as people who are old.

In this study elderly refers to person in the age group of above 56 years and below 70 years.

Anxiety

Anxiety is defined as a multi system response to a perceived threat or danger.

In this study anxiety refers to the feeling of tension or irritability.

Progressive Muscle Relaxation therapy

Progressive Muscle Relaxation therapy is defined as a treatment in which people are encouraged to relax their muscles to reduce tension.

In this study Progressive Muscle Relaxation therapy means practice of Progressive Muscle Relaxation technique twice a day for a period of 6 weeks.

ASSUMPTIONS

- Anxiety level may vary from one individual to another.
- Progressive Muscle Relaxation therapy may reduce the anxiety in elderly.

LIMITATIONS

- The elderly who were not showing enthusiasm to practice Progressive Muscle Relaxation technique.
- Difficulty faced in teaching the Progressive Muscle Relaxation technique to the elderly.

PROJECTED OUTCOME

- The study will help the elderly to realize their anxiety level.

- The study will help to create initiative among the elderly to practice the Progressive Muscle Relaxation technique and lead a life with normal anxiety level.

CHAPTER-II

REVIEW OF LITERATURE

Research often undertakes a literature review to familiarize with the knowledge base for both qualitative and quantitative researches. A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological

contributions to a particular topic. A literature review is important for developing a broad conceptual context into which research problems will fit.

For the purpose of logical sections, this chapter is divided into two parts.

Part-I: Deals with review of literature.

The literature review is arranged in the following categories

Section A : Studies related to anxiety in elderly.

Section B : Studies related to Progressive Muscle Relaxation and anxiety in elderly.

Part-II: Deals with conceptual framework.

Part-I

Section A: Studies related to anxiety in elderly.

Beekman, Beurs, Balkom, Deeg, Dyck, and Tilburg (1998) conducted a study on "Anxiety and Depression in Later Life: Co-Occurrence and Communality of Risk Factors". The purpose of this study was to examine the co morbidity of and communality of risk factors associated with major depressive disorder and anxiety disorders in later life. A random age and sex-stratified community-based sample (N=3,056) of the elderly (age 55–85 years) in the Netherlands was studied with the Center for Epidemiologic Studies Depression Scale and National Institute of Mental Health Diagnostic Interview Schedule. The result revealed that Co morbidity was highly prevalent: 47.5% of those with major depressive disorder also met criteria for anxiety disorders, whereas 26.1% of those with anxiety disorders also met criteria for major depressive disorder.

Beck, Stanley and Zebb (1999) conducted a descriptive study on "Characteristics of Generalized Anxiety Disorder in older adults". This investigation compared 44 Generalized Anxiety Disorder patients ($\bar{x}$ age 67.6), diagnosed using

structured interview, with a matched sample free of psychiatric disorders on self-report and clinician measures. Despite the prevalence of Generalized Anxiety Disorder in older adults, little is known about psychopathological features of excessive worry in the elderly. Results indicated that Generalized Anxiety Disorder in the elderly is associated with elevated anxiety, worry, social fears, and depression.

Casten, Parmelee, Kleban, Lawton and Katz (2000) conducted a study on "The relationships among anxiety, depression, and pain in a geriatric institutionalized sample." The study sought to be determining if depression and/or anxiety is uniquely related to pain after controlling for the strong association between anxiety and depression. Both depression and anxiety were assessed in an elderly institutionalized sample using: (1) research-based diagnoses based on Diagnostic and Statistical Manual-revised 3rd edition criteria, and (2) evaluations of one's recent affective states using the Profile of Moods States .Pain was assessed by pain intensity and number of pain complaints. A series of path models indicated that: (1) both research-based anxiety and depression share unique variance with pain, and (2) only Profile of Moods States anxiety is uniquely related to pain.

Small (2000) conducted a study on "Recognizing and treating anxiety among elderly." Although available data from controlled clinical trials are limited for anxiety patients in the geriatric age group, data from young adult studies and clinical experience indicate that pharmacologic treatments are safe and effective for anxious elderly patients. Age-related physiologic changes warrant modifications in dosing, including initial low doses increased in gradual increments. Education and psychotherapy are often recommended whether or not pharmacologic treatment is indicated.

Lenze et al (2000) conducted a study on "Co morbid Anxiety Disorders in Depressed Elderly Patients." This cross-sectional study measured current and lifetime rates and associated clinical features of anxiety disorders in

depressed elderly patients. History of anxiety disorders was assessed by using a structured diagnostic instrument in 182 depressed subjects aged 60 and older seen in primary care and psychiatric settings. The finding revealed that thirty-five percent of older subjects with expressive disorders had at least one lifetime anxiety disorder diagnosis, and 23% had a current diagnosis.

Deeg (1995) conducted a study "To find out the prevalence and risk factors of anxiety disorders in the older (55–85) population of The Netherlands." The method used was The Longitudinal Aging Study Amsterdam, based on a random sample of 3107 older adults, stratified for age and sex, which was drawn from the community registries of 11 municipalities .Anxiety disorders were diagnosed using the Diagnostic Interview Schedule in a two-stage screening design. The study revealed that the overall prevalence of anxiety disorders was estimated to be 10·2%. Generalized anxiety disorder was the most common disorder (7·3%), followed by phobic disorders (3·1%). Both panic disorder (1·0%) and obsessive compulsive disorder (0·6%) were rare.

Schoevers et al (2004) conducted a study "Assessment of the risk of elderly women for generalized anxiety and depression than elderly men." The cross-sectional study design was used. The population was 3790, aged 65-86 years old living in the community. Participants were selected by random sampling method. The result indicated that elderly women were at high risk of co morbid generalized anxiety.

Porzych et al (2005) conducted a research to determine depression and anxiety in elderly patients. Total number of examined patients were 60 in the age group 65 years and older. Examination results proved that the anxiety level in depressed patients is significantly higher than in non-depressed patients.

Johannes et al (2008) conducted a study on the "Prevalence of depression and anxiety symptoms in elderly patients admitted in post-acute intermediate care." The design was Observational cohort study and participants were 173 older patients. The study result revealed sixty-five patients (38%) with depressive symptoms, 29 (17%) with clinical depression, 73 (43%) with anxiety symptoms and 43 (25%) with clinical anxiety. 15 (35%) of the latter did not have elevated depression scores .Of those with clinical depression 14 (48%) had mild depression and 15(52%) had severe depression.

Wijeratne and Manicavasagar (2002) conducted a study on "Separation anxiety in the elderly." This study aimed to examine socio-demographic, psychological and physical health correlates of separation anxiety in the elderly. Eighty-six ambulatory subjects aged 62–87 years were recruited from primary medical care practices to participate in this study. The presence of lifetime DSM-IV affective and anxiety disorders were determined by structured clinical interview. Subjects also completed a battery of self-report questionnaires measuring levels of state and trait anxiety, juvenile and adult separation anxiety. Adult separation anxiety scores were moderately correlated with juvenile separation anxiety scores ($r=.52$, $P<.001$), trait anxiety ($r=.55$, $P<.001$) and state anxiety scores ($r=.66$, $P<.001$), as well as younger age ($r=.39$, $P<.001$).The study result showed that higher adult separation anxiety scores were also associated with a lifetime history of any anxiety disorder ($t=3.74$, $df=84$, $P<0.001$) or any affective disorder ($t=2.12$, $df=84$, $P<0.05$).

Moreno, Solana and Rico (2008) conducted a study on "Death anxiety in institutionalized and non-institutionalized elderly people in Spain." They used the Templer Death Anxiety Scale (1970) (Ramos's Spanish adaptation, 1982)) and chose subjects older than 65 years (N = 227) to study, on one hand, the existing relation

between cognitive-affective reactions toward death and the perception of the passing of time and, on the other, a group of variables which include the place of residence, age, gender, life reflection, health disorders, psychological problems, religious aspects, and socio-demographics features. To undertake this, a questionnaire was administered in which the participants answered according to their degree of agreement to several alternatives. The data indicates, by means of an analysis of variance, significant differences between these variables and death anxiety, with the exception of the religious aspects and civil state.

Lenze et al (2005) conducted a study to find out "Generalized Anxiety Disorder in depressed persons." The method used was intervention studies that had a life history of Generalized Anxiety Disorder among the 182 depressed subjects aged 60 years and older. It was suggested that 103 subjects had a mean onset of Generalized Anxiety Disorder of 48 years and 46% had late onset. Generalized Anxiety Disorder episodes were chronic and 36% were longer than 10 years.

Patterson, Sullivan and Spielberger (1980) conducted a study on "Measurement of state and trait anxiety in elderly mental health clients". Difficulties in measuring state and trait anxiety with mental health clients aged 55 and older using the Spielberger State-Trait Anxiety Inventory led the authors to validate the use of the simpler, children's form of their scale. Four types of validity data were found: (1) the children's' form was highly correlated with the adult form, (2) both scales were significantly correlated with objective ratings of anxiety made by staff, (3) the State-Trait Anxiety Inventory measures were not correlated with behavioral ratings other than anxiety (discriminate validity), (4) the residential clients were significantly higher in A-trait than the day clients. The nonresidential clients were not more anxious than college students. Discussion emphasizes the necessity of

distinguishing between and measuring both state and trait anxiety in order to understand anxiety in the elderly.

Weele et al (2009) conducted a study on "Co-occurrence of depression and anxiety in elderly subjects aged 90 years and its relationship with functional status, quality of life and mortality." In the study, a population based cohort study, depression and anxiety were assessed in all 90-year old subjects with ≥19 points on the Mini Mental State Examination .The result showed that of the subjects aged 90 years with Mini Mental State Examination ≥19 points (56 men, 145 women), 50 subjects (25%, 95% CI 19–31%) experienced depression and 25 subjects (12%, 95% CI 9–18%) anxiety; of them 34 (17%) experienced depression only, 9 (4%) anxiety only, and 16 (8%) both depression and anxiety.

2. Studies related to Progressive Muscle Relaxation and anxiety in elderly

Rankin, Gilner, Gfeller and Katz (1993) conducted a study on "Efficacy of progressive muscle relaxation for reducing state anxiety among elderly adults on memory tasks." Cognitively intact anxious elderly subjects were randomly assigned to either a progressive muscle relaxation-training condition or control condition (n = 15) and then completed selected subtests from the Wechsler Memory Scale-Revised. Despite significant reductions in state anxiety in the relaxation group, no significant differences were detected between the two groups on memory measures.

Gerilynn, Sheridan and Wise (2008) conducted a study on "Effects of Progressive Muscle Relaxation Training on Anxiety and Depression in Patients Enrolled in an Outpatient Pulmonary Rehabilitation Program." This prospective, randomized controlled trial examined the effect of progressive muscle relaxation (PMR) training on anxiety and depression in patients with chronic breathing disorders receiving pulmonary rehabilitation. Eighty-three subjects with chronic breathing disorders entering the 8-week pulmonary rehabilitation program were

randomly assigned to a standard care or intervention group. The intervention group received additional sessions of progressive muscle relaxation training using a prerecorded tape for 25 min/week during weeks 2–8. The study revealed that for anxiety, there was an overall significant improvement within each group over time ($p < 0.0001$). There was no statistically significant group-time interaction ($p = 0.17$) and no statistically significant difference between the groups ($p = 0.22$), despite lower scores for every time point in the progressive muscle relaxation group. For depression, there was an overall significant improvement within each group over time ($p < 0.0001$). Although the difference between the groups ($p = 0.09$) and group-time interaction ($p = 0.07$) did not reach statistical significance, the results again favored the progressive muscle relaxation group for weeks 5–8.

Chen ,Chu , Lu , Chou ,Chen and Chang (2009) conducted a study on "Efficacy of progressive muscle relaxation training in reducing anxiety in patients with acute schizophrenia ."An experimental randomized controlled trial was used. The study was designed to examine the effects of progressive muscle relaxation training on patients diagnosed with schizophrenia. Study participants were acute psychiatric inpatients in Taiwan. Eighteen patients were block randomized and then assigned to an experimental or control group. The experimental group received progressive muscle relaxation training and the control group received a placebo intervention. The result showed that the degree of anxiety improvement was significantly higher in the progressive muscle relaxation training group than in the control group after progressive muscle relaxation training intervention ($p < 0.0001$) and at follow-up ($p = 0.0446$).

Koder (1998) conducted a study on "Treatment of Anxiety in the Cognitively Impaired Elderly: Can Cognitive-Behavior Therapy Help?" An overview of the clinical application of cognitive-behavioral techniques in treating the anxiety in

elderly patients with brain damage is presented. Two cases are described with a focus on clinical anxiety management techniques that have been modified to suit cognitively impaired elderly patients. These modifications include simplifying material, using more structured techniques, and recognizing the critical role of the patient's caregiver in therapy. It concluded that cognitive-behavior therapy can help in reducing anxiety in population with dementia; the potential benefits of this therapy are an increase in patients' self-esteem and independence and prevention of hospitalization.

Stanley et al (2003) conducted a study on "Cognitive-behavioral treatment of late-life generalized anxiety disorder." This study addressed the efficacy of cognitive-behavioral therapy, relative to minimal contact control in a sample of 85 older adults (age 60 years and over) with generalized anxiety disorder .All participants completed measures of primary outcome (worry and anxiety), coexistent symptoms (depressive symptoms and specific fears), and quality of life. Results of both completer and intent-to-treat analyses revealed significant improvement in worry, anxiety, depression, and quality of life following cognitive-behavioral therapy relative to minimal contact control.

Conrad and Roth (2006) conducted a study on "Muscle relaxation therapy for anxiety disorders: It works but how?" Progressive relaxation have been found to be effective in panic disorder and generalized anxiety disorder .This review describes the most common Muscle relaxation therapy techniques, summarizes recent evidence of their effectiveness in treating anxiety, and explains their rationale and physiological basis. They concluded that although generalized anxiety disorder and panic disorder patients may exhibit elevated muscle tension and abnormal autonomic and respiratory measures during laboratory baseline assessments, the

available evidence does not allow us to conclude that physiological activation decreases over the course of Muscle relaxation therapy in generalized anxiety disorder and panic disorder patients, even when patients report becoming less anxious.

Stanley and Novy (2000) conducted a study on "Cognitive-Behavior Therapy for Generalized Anxiety in Late Life: An Evaluative Overview." In this paper, the clinical features of generalized anxiety disorder among older adults are described, with particular attention to differences in the nature of relevant symptoms among older and younger cohorts. Outcome studies addressing the efficacy of cognitive-behavior therapy for younger and middle-aged adults with generalized anxiety disorder then are reviewed briefly. The early literature investigating the potential usefulness of cognitive-behavioral treatments among older anxious community volunteers is then reviewed and critiqued in some detail. This research also reviewed, and directions for future research in cognitive-behavior therapy and anxiety are provided.

Sallis and Lichstein (1982) conducted a study on "Analysis and management of geriatric anxiety." In this essay, the prevalence, negative health implications, and clinical management of geriatric anxiety are reviewed An interactive model of geriatric anxiety is proposed, whereby physical disease and anxiety processes enter into reciprocal stimulation as a function of 1) diminished capacity to withstand stress, and 2) hyper vigilance of stress symptomatology. To date, pharmacotherapy has been virtually the sole approach to managing geriatric anxiety, although special hazards accrue to the elderly when anxiolytics are used. Potentially useful psychological treatments including relaxation, cognitive restructuring, activity structuring, and prevention are outlined.

Ayers et al (2007) conducted a project "to identify evidence-based psychotherapy treatments for anxiety disorders in older adults" The authors conducted a review of the geriatric anxiety treatment outcome literature by using specific coding criteria and identified 17 studies that met criteria for evidence-based treatments. These studies reflected samples of adults with generalized anxiety disorder or samples with mixed anxiety disorders or symptoms. Evidence was found for efficacy for 4 types of evidence-based treatments. Relaxation training, cognitive–behavioral therapy and, to a lesser extent, supportive therapy and cognitive therapy have support for treating subjective anxiety symptoms and disorders. Cognitive–behavioral therapy for late-life generalized anxiety disorder has garnered the most consistent support, and relaxation training represents an efficacious, relatively low-cost intervention. Continued investigation of evidence-based treatments is needed in clinical geriatric anxiety samples, given the small number of available studies. Future research should examine other therapy models and investigate the effects of psychotherapy on other anxiety disorders, such as phobias and post traumatic stress disorder in older adults.

Wetherell, Hopko, Diefenbach, Averill, Beck and Craske (2005) conducted a study on "Cognitive-behavioral therapy for late-life generalized anxiety disorder: Who gets better?" The authors pooled data from three independently conducted treatment outcome studies to examine predictors of outcome from group-administered cognitive-behavioral therapy for older adults with generalized anxiety disorder .Data were collected from 65 patients with a mean age of 67.7 years (SD = 6.6). Average reliable change indices based on 3 outcome measures were calculated at post treatment and at 6-month follow-up. Approximately half of patients achieved

significant reliable change indices at post treatment and two-thirds achieved significant reliable change indices at follow-up. Factors associated with better outcomes included better homework adherence, higher baseline generalized anxiety disorder severity, and presence of a co morbid psychiatric diagnosis. Results suggest that at-home practice is associated with better and longer-lasting outcomes from Cognitive behavioral therapy in older adults with generalized anxiety disorder.

Stanley (1996) done a study on "Treatment of generalized anxiety in older adults: A preliminary comparison of cognitive-behavioral and supportive approaches" Generalized Anxiety Disorder (GAD) in older adults has received little attention from researchers, despite evidence that anxiety disorders are a significant mental health problem in this population. This study compared the efficacy of Cognitive Behavior Therapy(CBT) and nondirective, supportive psychotherapy for 48 older adults, ages 55 and up, with well-diagnosed generalized anxiety disorder. Treatments were administered in small groups that met for 14 weekly 1 1/2 hour sessions. Treatment effects were assessed at post treatment and over a 6-month follow-up period. Primary outcome variables targeted anxiety and worry, and transfer effects were assessed with measures of depression and associated fears. Two composite indexes of treatment response were derived to identify treatment responder status and high end state functioning. Two participants declined participation prior to randomization; 15 others were classified as drop-outs. Results for the remaining 31 participants (CBT: n = 18; SP: n = 13) demonstrated the significant improvements on primary outcome and transfer effect variables in both treatment conditions. Effect sizes generally were large, and treatment gains were maintained or improved over the 6-month follow-up phase. Examination of treatment responder status and end state functioning revealed no significant

differences between groups. The data support the potential efficacy of psychosocial group treatment for of generalized anxiety disorder in older adults, although limitations of the work and suggestions for future research are discussed.

CONCEPTUAL FRAMEWORK

Conceptual framework is a brief explanation of a theory or those portions of a theory to be tested in a study (Grove, 2003).

The conceptual frame work and model adapted for this study is based on **Roy's adaptation model (1984)**. Roy's model focuses on the concept of adaptation of a person. The theorist concept of nursing, person, health and environment are all interrelated to this central concept. The person continuously scans the environment for stimulant. Roy expressed that a person's adaptation level is constantly changing point made up of focal, contextual and residual stimuli which represent the person's standard of the range of stimuli to which one can respond with ordinary adaptive

response may be either adaptive or ineffective responses. Adaptive responses are those that promote integrity and help the person to achieve the goals of adaptation (i.e.) Survival, growth. Ineffective responses are responses that fail to achieve the goals of adaptation.

Input

According to theorist's view, a stimulus is "The degree of change or stimulus most immediately confronting the person and the one to which the person must make an adaptive response, that is, the factor that precipitates behavior". The stimuli act as input to the person as an adaptive system. In this study, input refers to the selected demographic variables of elderly such as age, sex, education, previous occupation, marital status, dietary pattern, hobby, religion and duration of stay in the old age home.

Control process

Roy views that perception of the person links the regulator with cognator. In this study control process refers to perception of anxiety among elderly residing in selected old age homes at Thiruvananthapuram district, Kerala.

Effectors

Effectors are the ways of coping that manifest regulator and cognator activity. In this study effectors refers to performance of Progressive Muscle Relaxation therapy by elderly residing in selected old age homes at Thiruvananthapuram district, Kerala.

Output

Output refers to the patient's pattern of behavior. It can be both internal and external. These patterns may be observed, measured and subjectively reported. These responses provide feedback for the system. Roy states that output of the system as either effective responses or ineffective responses. In this study the effective responses are the high reduction in anxiety in the experimental group. The ineffective response is less reduction of anxiety in control group (Fig.1).

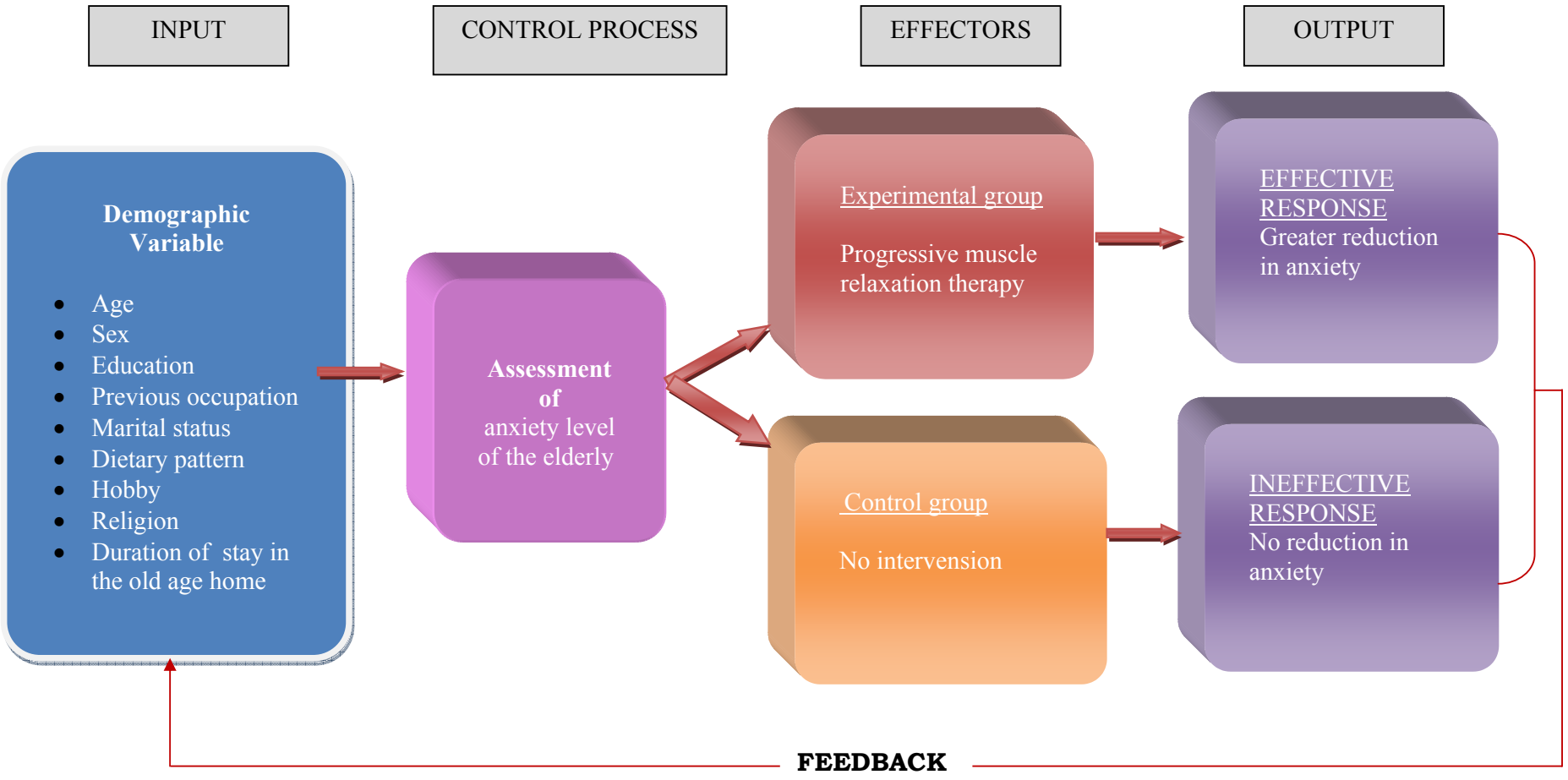


FIG – 1 : CALLISTA ROY'S ADAPTATION MODEL (1984)

CONCLUSION

The conceptual framework based on Callista Roy's Adaptation Model concludes that Progressive Muscle Relaxation therapy in the experimental group will have more reduction in anxiety.

CHAPTER-III

METHODOLOGY

Methodology of research indicates the general pattern of organizing the procedure for gathering valid and reliable data. Methodological studies address the development, validation and evaluation of research tools and techniques (Polit, 1998). This chapter deals with research approach, research design, variables under study, setting, population, sample, sample size, sampling technique, criteria for sample selection, development of the tool, content validity, description of the tool, reliability, pilot study, data collection procedure, plan for data analysis, and protection of human subjects.

RESEARCH APPROACH

Quantitative approach was adopted for the study.

RESEARCH DESIGN

In this study pretest post test control group design was used. The experimental group was used to determine the effect of Progressive Muscle Relaxation Therapy. Schematic representation of the design is given below.

O_1	X	O_2
O_3		O_4

O_1 - Observation (Pretest assessment of anxiety in experimental group)

X - Exposure to Progressive Muscle Relaxation Therapy

O_2 - Observation (Post test assessment of anxiety in experimental group)

O_3 - Observation (Pretest assessment of anxiety in Control group).

O_4 - Observation (Post test assessment of anxiety in Control group).

VARIABLES UNDER STUDY

Independent variable - Relaxation therapy

Dependent variable - Anxiety

SETTING OF THE STUDY

The setting selected for the study was the old age homes at Valiavilai and Mukkola, in Thiruvananthapuram district. The distance between the two old age homes is nearly 5 kms away from the investigator's residence.

POPULATION OF THE STUDY

The target population selected for the study was 85 elderly in the old age homes.

SAMPLE

The elderly in the age group of above 56 and below 70 years residing in the old age homes who fit the criteria of sample selection were selected as sample.

SAMPLE SIZE

The sample size of the study was 60 elderly people. The sample consisted of 30 samples in the experimental group and 30 samples in the control group with anxiety.

SAMPLING TECHNIQUE

The elderly who satisfied the inclusion criteria were selected by using Convenience sampling technique to the experimental group and the control group.

CRITERIA FOR SAMPLE SELECTION

The sample was selected based on the following criteria

Inclusion criteria

The elderly people

- who can understand Malayalam
- who are willing to participate
- in the age group of above 56 years and below 70 years.

Exclusion criteria

The elderly

- who are having history of fracture and back pain.
- who are too debilitated.
- who are having mental illness.

RESEARCH TOOL

The research tool which was used for the study was Zung's Self Rating Anxiety Scale.

DEVELOPMENT OF THE TOOL

After a careful review of literature the investigator identified standardized tool for the study.

CONTENT VALIDITY

The structured questionnaire which consisted of demographic variables and the Zung's Self Rating Anxiety Scale was given to 5 experts for necessary corrections and content validity before finalizing the tool.

DESCRIPTION OF THE TOOL

The structured questionnaire consisted of two parts:

Section A

Demographic variables consisted of age, sex, education, previous occupation, marital status, dietary pattern, hobby and duration of stay in the old age home.

Section B

Zung's Self Rating Anxiety Scale consisted of 20 questions and the maximum score was 80.The score was interpreted as follows:

None or a little of the time - 1

Some of the time - 2

A good part of the time - 3

Most or all of the time - 4

The total score was converted into percentage and the result score was ranged as follows:

20-44 - Normal anxiety

45-59 - Mild to moderate anxiety

60-74 - Marked to severe

75-80 - Extreme Anxiety

RELIABILITY

The reliability of the tool was assessed by test retest method. The obtained reliability coefficient was 'r' =0.988

PILOT STUDY

Pilot study is a small preliminary investigation of the same general character of the study which is designed to acquaint the investigator with problems that can be corrected in preparation for the larger research project.

Pilot study was carried out on 6 samples. 3 samples in the experimental group and 3 in the control group. Zung's Self Rating Anxiety Scale was used for data collection. Pilot study was conducted for a period of one week after getting permission from the authority. The questions were asked to the elderly and the anxiety was assessed. Progressive Muscle Relaxation Therapy was demonstrated to the experimental group and after 3 weeks post test was conducted. The Pilot study was conducted to study the reliability of the tool to be used to measure the attributes of anxiety in terms of stability and internal consistency and the study was found feasible to continue the main study.

DATA COLLECTION PROCEDURE

The data was collected from the old age homes at Valiavilai and Mukkola in Thiruvananthapuram district. The 60 samples were selected by convenience sampling technique for both groups. Data was collected for a period of 6 weeks. The elderly who fit into the criteria were selected. The data were collected in three steps.

Step-I

Written formal permission was obtained from the Directors of the old age homes at Mukkola and Valiavilai.

Step-II

The researcher introduced herself and obtained the consent from the elderly people. The study was explained and assured them that the answers were kept confidential. The questions were asked to the elderly and the anxiety was assessed. All the pre test data were kept confidential.

Step-III

After assessment of anxiety Progressive Muscle Relaxation technique was demonstrated to the 30 subjects in the experimental group every morning for 3 hours and the researcher made them practice Progressive Muscle Relaxation technique twice daily for 6 weeks.

Step-IV

After 6 weeks the post test was done both in the control and experimental group. Both the experimental and control groups responded to the question. All the data were kept confidential.

STATISTICAL ANALYSIS

The study subjects were described in terms of percentage and interpreted by student‘t’ test. The effect of Progressive Muscle Relaxation therapy was proved by paired‘t’ test. The association between the demographic variables and the pretest score of the experimental and control group was calculated and interpreted by χ^2 (Chi square test).

PROTECTION OF HUMAN RIGHTS

The study was conducted after the approval from the dissertation committee of Christian College of Nursing, Neyyoor. Formal administrative permission was obtained from the old age homes.

Assurance was given to the study subjects and individual consent was obtained from the subjects. The subjects were informed that they were free to withhold from the study at anytime. The subjects were also informed that any clarification regarding Progressive Muscle Relaxation therapy would be given to them at any time.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Statistical analysis is the method of rendering quantitative information meaningful and intelligible statistical procedure that enables the researcher to reduce, summarize, organize, evaluate, interpret and communicate numeric information (Polit, 2008).

This chapter deals with the analysis and interpretations of data collected to evaluate the effect of Progressive Muscle Relaxation therapy in reducing the anxiety among the elderly residing in selected old age homes at Thiruvananthapuram district, Kerala based on the objectives and hypotheses of the study. The objectives of the study were,

- to assess the degree of anxiety among elderly in experimental and control group before Progressive Muscle Relaxation therapy.
- to assess the degree of anxiety among elderly in experimental group and control group after administration of Progressive Muscle Relaxation therapy in the experimental group.
- to compare the degree of anxiety among elderly in experimental and control group after administration of Progressive Muscle Relaxation therapy in the experimental group.
- to associate the degree of anxiety among elderly before Progressive Muscle Relaxation therapy with the selected demographic variables such as age, sex, education, previous occupation, marital status, dietary pattern, hobby, religion and duration of stay in the old age home.

ORGANIZATION OF THE FINDINGS

In order to find out the relationship between the variables and the effect of Progressive Muscle Relaxation therapy, the data gathered were tabulated, analyzed and interpreted by using both descriptive and inferential statistics. The data are presented under the following headings.

Section I	:	Description and matching of study subjects
Section II	:	Assessment of anxiety before Progressive Muscle relaxation therapy
Section III	:	Comparison of anxiety between experimental and control groups before Progressive Muscle relaxation therapy
Section IV	:	Assessment of anxiety after Progressive Muscle relaxation therapy
Section V	:	Assessment of the effect of Progressive Muscle relaxation therapy
Section VI	:	Association between anxiety and demographic variables

SECTION I: DESCRIPTION AND MATCHING OF STUDY SUBJECTS

The study subjects were described according to their demographic variables such as age, sex, education, previous occupation, marital status, dietary pattern, hobby and duration of stay in the old age home.

TABLE - 1: DESCRIPTION AND MATCHING OF STUDY SUBJECTS

Sl. no	Demographic Variables	Components	Experimental (n =30)		Control (n =30)		Significance
			N	%	N	%	
1	Age	55-59	9	30.0	7	23.3	
		60-65	16	53.3	14	46.7	p>0.05
		65-69	5	16.7	9	30.0	
2	Sex	Male	24	80.0	20	66.7	p>0.05
		Female	6	20.0	10	33.3	
3	Education	Degree	9	30.0	4	13.3	
		Higher secondary	10	33.3	2	6.7	p<0.05
		Primary	11	36.7	22	73.3	
		Illiterate	0	0	2	6.7	
4	Previous occupation	Manual Laborer	5	16.7	14	46.7	
		Government	15	50.0	6	20.0	p<0.05
		Private	8	26.6	10	33.3	
		Unemployed	2	6.7	0	0	
5	Marital status	Separated	2	6.7	4	13.3	
		Unmarried	3	10.0	5	16.7	p>0.05
		Widow	5	16.7	8	26.7	
		Widower	20	66.6	13	43.3	
6	Dietary habit	Non vegetarian	27	90.0	29	96.7	p>0.05
		Vegetarian	3	10.0	1	3.3	
7	Hobby	Yes	25	83.3	7	23.3	p<0.05
		No	5	16.7	23	76.7	
8	Religion	Hindu	29	96.7	25	83.3	p>0.05
		Christian	1	3.3	5	16.7	
9	Duration of stay	Less than 5 years	7	23.3	16	53.3	p<0.05
		More than or equal to 5 years	23	76.7	14	46.7	

Regarding the age, 9(30.3%) were in the age group of 55-59, 16(53.3%) were in the age group of 60-65,and 5 (16.7%) were in the age group of 65-69.With respect to sex, 80% of the subjects were males compared to females which is 20%.About 33.3% were having primary school education. With respect to previous occupation 50% were Government employees and only 6.7% were unemployed. Regarding marital status, 2(6.7%) were separated, 3(10%) were unmarried, 5(16.7%) were widow and 18(60%) were widower. Most of the elderly, 27(90%) were non-vegetarian. With respect to hobby only 25(83.3%) were having hobbies. Majority, 29(96.7%) were Hindu regarding the religion. Regarding the duration of the stay in the old age homes, 23(76.7%) were having more than one year of stay.

The above table -1 describes and compares the study subjects in terms of their demographic variables. The mean age of the experimental group was 61.4± 3.3 years and the same of the control group was 62.5± 3.4.The difference between the ages were not statistically significant ($p > 0.05$).In respect of sex also, the two groups were not differed significantly ($p>0.05$).The two groups were significantly differed in respect of their educational level and previous occupation. Regarding the marital status, the difference between the two groups was not statistically significant ($p>0.05$).The dietary habit of the experimental and control groups were not differed statistically ($p<0.05$.)In respect of their hobby the two groups were differed significantly ($p>0.05$).The religion of the experimental and control groups did not differed significantly ($p<0.05$).The duration of the stay at old age home of the experimental and control were statistically differed.

Comparisons of percentage distribution of elderly according to the demographic variables are shown in the Figure 2 - 5.

Fig - 2 : DISTRIBUTION OF ELDERLY ACCORDING TO AGE

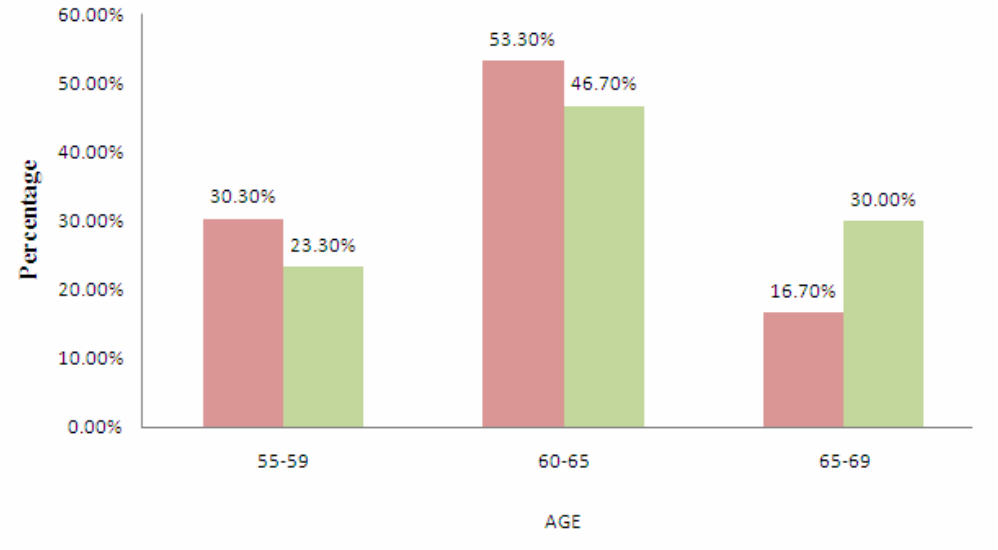


Fig - 3 : DISTRIBUTION OF ELDERLY ACCORDING TO SEX

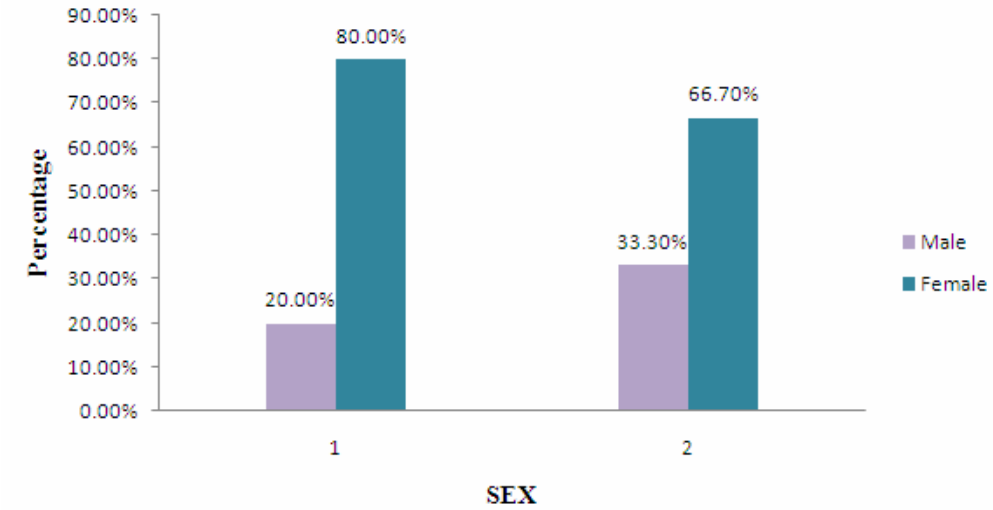


Fig - 4 : DISTRIBUTION OF ELDERLY ACCORDING TO

MARITAL STATUS

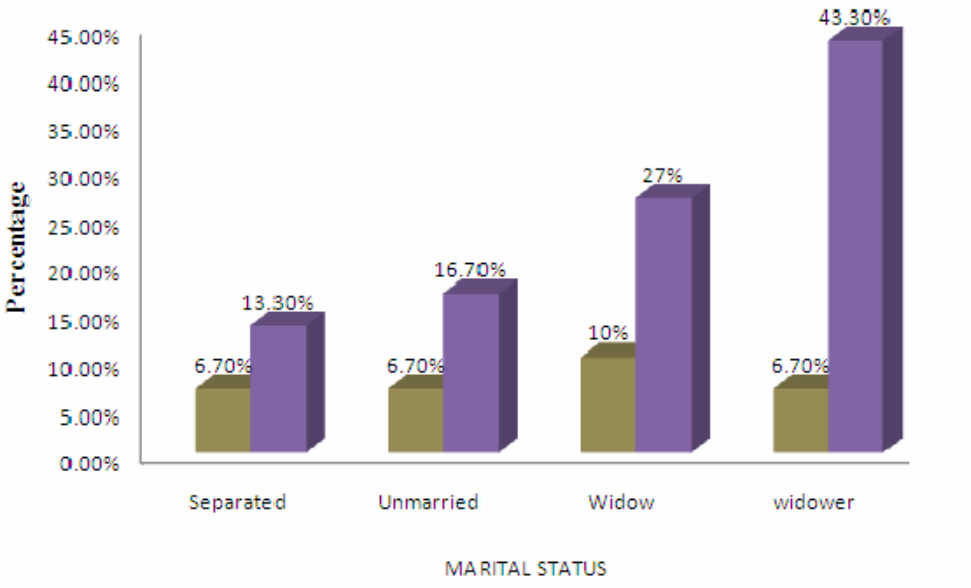
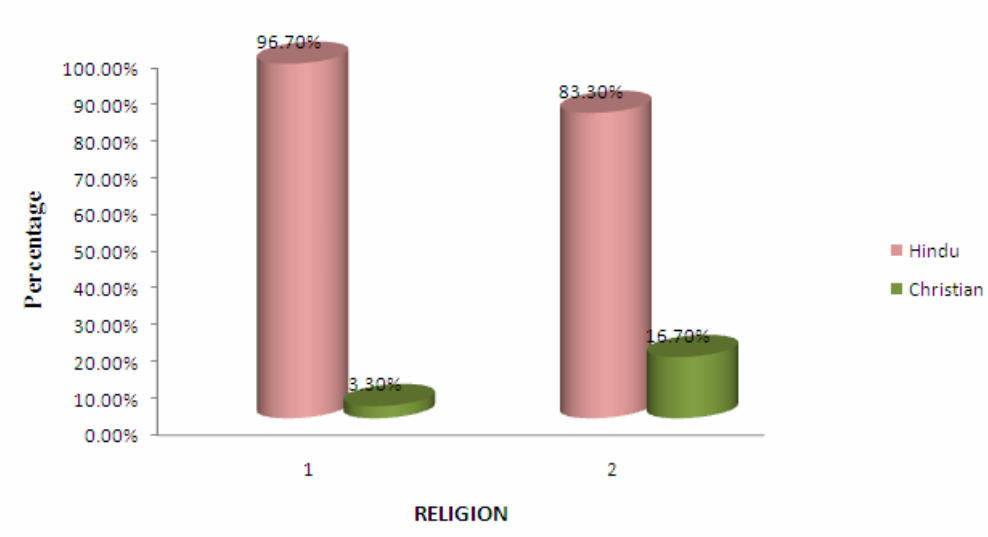


Fig - 5 : DISTRIBUTION OF ELDERLY ACCORDING TO RELIGION



SECTION II

ASSESSMENT OF ANXIETY BEFORE PROGRESSIVE MUSCLE RELAXATION THERAPY

The anxiety level of the elderly people was assessed before Progressive Muscle relaxation therapy as follows:

TABLE - 2 : ASSESSMENT OF ANXIETY BEFORE PROGRESSIVE MUSCLE RELAXATION THERAPY

Score	Percentage of scores	Level of anxiety	Experimental		Control		Significance
			N	%	N	%	
20-44	25-55	Normal	-	-	-	-	
45-59	55-75	Mild to moderate	12	40.0	11	36.7	t=0.268
60-74	75-92.5	Severe	18	60.0	19	63.3	d.f=58
75-80	92.5-100	Extreme	-	-	-	-	p>0.05
Total			30	100	30	100	

In the above table-2, among the experimental group elderly 40 %(12) had mild to moderate anxiety and the remaining 60 %(18) had severe anxiety before Progressive Muscle relaxation therapy. In the control group, 36.7 %(11) were having mild to moderate anxiety and 63.03 %(19) were having severe anxiety. The difference between the two groups were statistically not significant (p>0.05).By assessment, the two groups were equal in respect of their anxiety before Progressive Muscle relaxation therapy.

SECTION III

TABLE – 3 : COMPARISON OF ANXIETY BETWEEN EXPERIMENTAL AND CONTROL GROUPS BEFORE PROGRESSIVE MUSCLE RELAXATION THERAPY

Variable	Experimental		Control		Difference	't'	d.f	Significance
	Mean	S.D	Mean	S.D				
Anxiety before Progressive Muscle relaxation therapy	59.8	7.0	60.2	6.4	0.4	0.230	58	P>0.05

The table - 3 compares the anxiety in elderly between the experimental and control groups before the introduction of Progressive Muscle relaxation therapy. The mean anxiety of the experimental group was 59.8 ± 7.0 and the same of the control group was 60.2 ± 6.4.The mean anxiety between the two groups did not differed significantly. Hence the two groups were comparable groups.

SECTION IV

ASSESSMENT OF ANXIETY AFTER PROGRESSIVE MUSCLE RELAXATION THERAPY

The anxiety of the two groups was assessed after introduction of Progressive Muscle relaxation therapy to experimental subjects and without therapy in the control group.

Table – 4 : ASSESSMENT OF ANXIETY AFTER PROGRESSIVE MUSCLE RELAXATION THERAPY

Score	Percentage of scores	Level of anxiety	Experimental		Control		Signifi-cance
			N	%	N	%	
20-44	25-55	Normal	4	13.3	-	0.0	
45-59	55-75	Mild to moderate	25	83.4	12	40.0	t=3.85
60-74	75-92.5	Severe	1	3.3	18	60.0	d.f=58
75-80	92.5-100	Extreme	-	-	-	-	p<0.001
Total			**30**	**100.0**	**30**	**100.0**	

The assessment of anxiety between the experimental and control group after Progressive Muscle Relaxation therapy revealed that 4 (13.3%) elderly were having normal anxiety level, 25(83.4%) were having mild to moderate level of anxiety and 1(3.3%) were having severe degree of anxiety. But at the same time the control group elderly had anxiety level as mild to moderate 40% and as severe degree of anxiety 60%. The level of anxiety was considerably reduced among the experimental group than the control group. The difference between the two groups were statistically highly significant ($p<0.001$).[table-4]

SECTION V

ASSESSMENT OF EFFECT OF PROGRESSIVE MUSCLE RELAXATION THERAPY

The effect of progressive muscle relaxation therapy was assessed by comparing the pre-test anxiety with the post test anxiety of the groups.

TABLE – 5 : ASSESSMENT OF EFFECT OF PROGRESSIVE MUSCLE RELAXATION THERAPY

Study subjects	Pre-test		Post-test		Reduction		't'	d.f	Signifi-cance
	Mean	S.D	Mean	S.D	Mean	S.D			
Experimental group	59.8	7.0	51.2	5.4	8.6	5.4	8.734	29	P<0.001
Control group	60.2	6.4	60.1	6.0	0.1	2.3	0.156	29	P>0.05

The above table-5 explains the effect of progressive muscle relaxation therapy. The mean anxiety of experimental group before progressive muscle relaxation therapy was 59.8± 7.0 and the same was reduced after progressive muscle relaxation therapy as 51.2± 5.4 with a mean reduction of 8.6 ± 5.4.The mean reduction was statistically highly significant (P<0.001).But in respect of control group the mean anxiety before the introduction of progressive muscle therapy was 60.2 ± 6.4 and the same was reduced without progressive muscle relaxation therapy to 60.1± 6.0 with the mean reduction of 0.1± 2.3.The reduction of anxiety was not statistically significant (P>0.05).The reduction of anxiety among the experimental group subjects attributed to the effectiveness of progressive muscle relaxation therapy.

SECTION VI

TABLE – 6 : ASSOCIATION BETWEEN ANXIETY AND DEMOGRAPHIC VARIABLES OF EXPERIMENTAL AND CONTROL GROUP

S. No	Demographic variables	Association with pretest anxiety of experimental group			Association with pretest anxiety of control group		
		χ^2	d.f	Significance	χ^2	d.f	Significance
1	Age	3.779	2	P>0.05	0.164	2	P>0.05
2	Sex	1.701	1	P>0.05	3.517	1	P>0.05
3	Education	1.553	2	P>0.05	0.542	3	P>0.05
4	Pre-occupation	2.778	3	P>0.05	1.805	2	P>0.05
5	Marital status	5.370	4	P>0.05	4.237	3	P>0.05
6	Dietary habit	0.988	1	P>0.05	1.787	1	P>0.05
7	Hobby	0.0	1	1.00	0.258	1	P>0.05
8	Religion	0.690	1	P>0.05	0.029	1	P>0.05
9	Duration of stay	0.497	1	P>0.05	2.010	1	P>0.05

The above table-6 states the association between the pre-test anxiety with their demographic characteristics of experimental and control groups. The demographic variables such as age, sex, education, previous occupation, marital status, dietary pattern, hobby and duration of stay in the old age home was not associated with the pre-test anxiety of experimental and control groups. That means the demographic variables were not confounding with the anxiety of study subjects.

CHAPTER V

DISCUSSION

The present study has undertaken to assess the effect of Progressive Muscle Relaxation therapy in reducing anxiety among the elderly residing in selected old age homes at Thiruvananthapuram district. Totally 60 elderly with anxiety were selected by convenience sampling technique. Among 60, 30 samples were assigned to experimental group and 30 to control group. Pre-test anxiety was assessed by using Zung's Self Rating Anxiety Scale. The experimental group received Progressive Muscle Relaxation therapy and the post test anxiety was assessed by using Zung's Self Rating Anxiety scale.

CHARACTERISTICS OF THE PARTICIPANT

Regarding the age, 9(30.3%) were in the age group of 55-59,16(53.3%) were in the age group of 60-65,and 5 (16.7%) were in the age group of 65-69.With respect to sex, 80% of the subjects were males compared to females which is 20%.About 33.3% were having primary school education. With respect to previous occupation 50% were Government employees and only 6.7% were unemployed. Regarding marital status, 2(6.7%) were separated, 3(10%) were unmarried, 5 (16.7%) were widow and 18(60%) were widower. Most of the elderly, 27(90%) were non-vegetarian. With respect to hobby only 25(83.3%) were having hobbies. Majority, 29(96.7%) were Hindu regarding the religion. Regarding the duration of the stay in the old age homes, 23(76.7%) were having more than one year of stay.

The study findings were discussed in this chapter with reference to the objectives and hypotheses.

The first objective of the study was to assess the degree of anxiety among elderly in experimental and control group before progressive muscle relaxation therapy.

Among the experimental group, 40 %(12) elderly had mild to moderate anxiety and the remaining 60 %(18) had severe anxiety before Progressive Muscle relaxation therapy. In the control group, 36.7 %(11) were having mild to moderate anxiety and 63.03 %(19) were having severe anxiety .The difference between the two groups were statistically not significant (p>0.05). [Table-2]

The mean anxiety of experimental and control groups before initiation of Progressive Muscle relaxation therapy was 59.8 ± 7.0 and 60.2 ±6.4. The means were not statistically significantly differed. The results of the assessment of anxiety of both groups were comparable (P > 0.05)[Table-3].

The second objective of the study was to assess the degree of anxiety among elderly in experimental group and control group after administration of progressive muscle relaxation therapy in the experimental group.

The assessment of anxiety between the experimental and control group after Progressive Muscle Relaxation therapy revealed that 4 (13.3%) elderly were having normal anxiety level, 25(83.4%) were having mild to moderate level of anxiety and 1(3.3%) were having severe degree of anxiety. But at the same time the control group elderly had anxiety level as mild to moderate 40% and as severe degree of anxiety 60%. The level of anxiety was considerably reduced among the experimental group than the control group. [Table-4]

The third objective of the study was to compare the degree of anxiety among elderly in experimental and control group after administration of progressive muscle relaxation therapy in the experimental group

The mean anxiety of experimental group before relaxation therapy was 59.8 ± 7 and the same after relaxation therapy was 51.2 ± 5.4.The anxiety that was reduced from before therapy to after therapy was statistically very highly significant

(t=8.734,d.f=29 and P< 0.001).But in the control group the anxiety was 60.2± 6.4 and 60.1 ± 6 of pre test and post test respectively. The reduction of anxiety was not statistically significant (P > 0.05).The significant reduction of anxiety among the experimental group attributed to the effectiveness of relaxation therapy [Table-5]

The fourth objective of the study was to associate the degree of anxiety before progressive muscle relaxation therapy with the selected demographic variables such as age, sex, education, previous occupation, marital status, dietary pattern, hobby, religion and duration of stay in the old age home.

The table-6 states the association between the pre-test anxiety with their demographic characteristics of experimental and control groups. The demographic variables such as age, sex, education, previous occupation, marital status, dietary pattern, hobbies and duration of stay in the old age home was not associated with the pre-test anxiety of experimental and control groups. That means the demographic variables were not confounding with the anxiety of study subjects.

HYPOTHESES

- There will be no significant relationship between the degree of anxiety and the selected demographic variable of anxiety.
- There will be no significant relationship between Progressive Muscle Relaxation therapy and reduction in anxiety of elderly.

From the analysis and arguments the null hypothesis [H1] “There is no significant relationship between the degree of anxiety and the selected demographic

variable of anxiety and it was accepted". The research hypothesis [H2] "Progressive Muscle Relaxation therapy significantly reduced the anxiety in the elderly in the old age home and was rejected."

CHAPTER-VI

SUMMARY AND RECOMMENDATIONS

This chapter deals with the summary of the study and the conclusions drawn. The implications are given for different areas like nursing education, nursing practice, nursing administration and nursing research.

SUMMARY

The present study was undertaken to reduce anxiety among the elderly by giving Progressive Muscle Relaxation therapy.

OBJECTIVES OF THE STUDY

- To assess the degree of anxiety among elderly in experimental and control group before Progressive Muscle Relaxation therapy.
- To assess the degree of anxiety among elderly in experimental group and control group after administration of Progressive Muscle Relaxation therapy in the experimental group.
- To compare the degree of anxiety among elderly in experimental and control group after administration of Progressive Muscle Relaxation therapy in the experimental group.
- To associate the degree of anxiety among elderly before Progressive Muscle Relaxation therapy with the selected demographic variables such as age, sex, education, previous occupation, marital status, dietary pattern, hobby, religion and duration of stay in the old age home.

HYPOTHESES

- There will be no significant relationship between the degree of anxiety and the selected demographic variable of anxiety.
- There will be no significant relationship between Progressive Muscle Relaxation therapy and reduction in anxiety of elderly.

VARIABLES UNDER STUDY

Independent variable - Relaxation therapy

Dependent variable - Anxiety

The reliability was assessed by test retest method. The obtained reliability coefficient was r =0.988.Pilot study was conducted on six elderly with anxiety to find out the feasibility of conducting the study. The data was analyzed by using descriptive and inferential statistics.

SIGNIFICANT FINDINGS OF THE STUDY

- Regarding the age, 9(30.3%) were in the age group of 55-59,16(53.3%) were in the age group of 60-65,and 5 (16.7%) were in the age group of 65-69.With respect to sex, 80% of the subjects were males compared to females which is 20%.About 33.3% were having primary school education. With respect to previous occupation 50% were Government employees and only 6.7% were unemployed. Regarding marital status, 2(6.7%) were separated, 3(10%) were unmarried,5(16.7%) were widow and 18(60%) were widower. Most of the elderly, 27(90%) were non-vegetarian. With respect to hobby only 25(83.3%) were having hobbies. Majority, 29(96.7%) were Hindu regarding the religion. Regarding the duration of the stay in the old age homes,23(76.7%) were having more than one year of stay.
- The anxiety among the elderly in the experimental group before Progressive Muscle Relaxation therapy was mild to moderate 40% (12) and the anxiety among elderly in the control group was mild to moderate 36.7% (11) and severe 63.3% (19).
- The assessment of anxiety between the experimental and control group after Progressive Muscle Relaxation therapy revealed that 4 (13.3%) elderly were having normal anxiety level, 25(83.4%) were having mild to moderate level of anxiety and 1(3.3%) were having severe degree of anxiety. But at the same time the control group elderly had anxiety level as mild to moderate

40% and as severe degree of anxiety 60%. The level of anxiety was considerably reduced among the experimental group than the control group.

- The mean anxiety of experimental group before Progressive Muscle Relaxation therapy was 59.8 ± 7 and the same after Progressive Muscle Relaxation therapy was 51.2 ± 5.4.The anxiety that was reduced from before Progressive Muscle Relaxation therapy to after therapy was statistically very highly significant (t=8.734, d.f=29 and P< 0.001).But in the control group the anxiety was 60.2± 6.4 and 60.1 ± 6 in pre test and post test respectively. The reduction of anxiety was not statistically significant (P > 0.05).

IMPLICATIONS

The present study has several implications. They are

NURSING PRACTICE

- This study emphasis the importance of practice of Progressive Muscle Relaxation therapy in reducing anxiety so that the nurse can include it as a part of caring the geriatrics.
- The nurses need to be knowledgeable and know how to impart Progressive Muscle Relaxation therapy in the elderly.
- Provide facilities to educate regarding Progressive Muscle Relaxation therapy in order to reduce anxiety.

IMPLICATIONS TO NURSING EDUCATION

- The study serve as a base for the nurse educator to teach on the aspect of evidence based practice.

- The educator can take initiative to include the topic of elderly and relaxation in the curriculum..

IMPLICATIONS TO NURSING RESEARCH

- This study serve as a base for the conduction of further studies on the topic.
- Based on the study related studies can be conducted by the use of different relaxation techniques.

IMPLICATIONS TO NURSING ADMINISTRATION

- Provide fund for conducting seminar, workshop and conferences regarding the benefits of progressive muscle relaxation therapy.
- Announce the importance of progressive muscle relaxation therapy through media, posters, pamphlets and handouts.
- Implement policies to practice progressive muscle relaxation therapy in the areas of increased anxiety such as ICU's.

IMPLICATIONS TO NURSING RESEARCH

- Motivate the investigators to conduct study on progressive muscle relaxation therapy on other age group.
- This study can be a baseline for the future studies to build upon.

RECOMMENDATIONS

Based on the findings of the study, recommendations for future study are:

- The study can be conducted with large number of samples for better generalization.
- The study can be replicated with large number of samples.

- The study can be replicated with samples of different age groups other than elderly.
- The study can be done at different settings
- A comparative study can also be done to see the effectiveness of progressive muscle relaxation therapy and other relaxation technique in reducing anxiety.

CONCLUSION

The following conclusions were drawn from the study:

- The mean anxiety of the experimental group before progressive muscle relaxation therapy and the same after progressive muscle relaxation therapy was statistically highly significant.
- There was no relationship between the selected demographic variables and anxiety.

REFERENCES

TEXT BOOKS

- Basavanthappa BT. (1998). Nursing research. (1st ed). Mumbai. Jaypee Brothers Medical Publishers: 49.
- Carol A Miller. (2009). Nursing for Wellness in older Adults. (5thed) China: Lippincott Williams and Wilkins Publishers: 3, 7
- David. (2009). Cognitive Therapy of Anxiety Disorders: Science and Practice. (1st ed). New York: Guilford Press: 258, 259.
- Ebersole Hess Luggen. (2004) Toward Healthy Ageing Human needs and Nursing response. (6th ed). USA: Mosby Publications: 623

- Edmond. (2006). The epidemiology of anxiety disorders: an age comparison. Anxiety in the Elderly. (1st ed). New York: Springer Publication: 89, 90.
- Gill Garett. (1983). Health needs of the elderly. The essentials of Nursing. (1sted). London: Mac Millan Press: 3,4.
- Glantz. (2006). Primer of Biostatistics. (16th ed). Singapore: Mc Graw Hill: 14-15
- Mahajan,B.K. (1997). Methods on Biostatistics. (6th ed). Delhi: Jaypee Brothers Medical Publishers: 141-144.
- Martin M. Antony, Susan M. Orsillo, Lizabeth Roemer. (2001). Association for Advancement of Behavior Therapy Practitioner's guide to empirically based measures of anxiety. New York: Springer Publications: 66, 67.
- Nick Bouras. (1999). Psychiatric and behavioral disorders in developmental disabilities and mental retardation. New York: Cambridge University Press: 180,183
- Paramjeet Kaur Dhillon. (1992). Psycho-social aspects of aging in India.(1st ed). India: Concept Publishing Company: 31, 32
- Park.(2009). Text Book of Social and Preventive Medicine. (20thed). Jabalpur: Banarsidas Bhanot Publishers: 512.
- Phoebe Liebig, Sebastian Irudaya Rajan. (2003). An aging India: perspectives, prospects, and policies. (1st ed). USA: Haworth press: 11,12
- Polit DF and Beck CT. (2008). Nursing research. (1st ed). New Delhi: Wolters kluwer health: 768.
- Polit DF, Beck CT. (2006). Essentials of Nursing Research. (6th ed). Philadelphia: Lippincott Williams and Wilkins Publishers: 260.

- Rao, KV. (1996). Biostatistics A manual of Statistical method for use in health, nutrition and Anthropology. (1st ed). Delhi: Jaypee Brothers Medical Publishers: 572.
- Rao, PSS, Richard,J (2002). An introduction to Biostatistics. (3rd ed). New Delhi: Prentice Hall of India: 242-243.
- Rao, PSS,Richard .J (2007). Introduction to Biostatistics. (4th ed). Prentice Hall of India: 243-247.
- Raymond, Lam, Erin E. Michalak, Richard P. Swinson. (2005). Assessment scales in Depression, Mania, and Anxiety Assessment scales in Psychiatry series. UK: Taylor and Francis Publishers: 85-87
- Richard A. Posner. (1997). Aging and Old Age. (2nd ed). London: University of Chicago Press: 17-19
- Vrmla BL, Shukla GD, Srivastava RN. (1993). Biostatistics perspective in Health care Research and Practice. (1st ed). Nazia printers: 17.

JOURNALS

- M.A., Bruce G. Pollock, and Charles F. Reynolds. Co morbid Anxiety Disorders in Depressed Elderly Patients. The American Journal of Psychiatry. (2000): (157) 722-728.
- Pandey, Pradeep Kumar, Misra,Preeti. Legal protection of elderly persons in India: an overview .The Journal of Legal Awareness. (2009): 4(1).
- Ansgar Conrad,Walton T. Roth. Muscle relaxation therapy for anxiety disorders: It works but how? Disorders. Volume (2007): 243-264
- Michelle G. Newman,Thomas D Borkovec. Cognitive-Behavioral Treatment of Generalized Anxiety Disorder. 48(4): 5-7
- Thorp, Steven R, Ayers, Catherine R,Nuevo, Roberto.; Stoddard, Jill A.

Meta-Analysis Comparing Different Behavioral Treatments for Late-Life Anxiety American Journal of Geriatric Psychiatry.(2009): 17(2) 105-115

- Michel Hersen, Vincent B. Van Hasselt. Behavioral assessment and treatment of anxiety in the elderly. Journal of Behavior Therapy and Experimental Psychiatry (1997) 28(4): 269-279

- Karina Fuentes, and Brian J. Cox. Prevalence of anxiety disorders in elderly adults.A critical analysis. The International Journal of Psychiatry in Medicine 25(3)

- Newman, M. G., and Borkovec, T. D. Cognitive-behavioral treatment of generalized anxiety disorder. The Clinical Psychologist. (1995): 48(4,5-7)

- Eric J. Lenze, Benoit H. Mulsant, M. Katherine Shear, Herbert C.

Schulberg, Mary Amanda Dew, Amy E. Begley, M.A., Bruce G. Pollock and Charles F. Reynolds. Co morbid Anxiety Disorders in Depressed Elderly Patients. Am J Psychiatry. (2000). 157:722-728

ELECTRONIC VERSION

- A Conrad. (2007). Physiological assessment of muscle relaxation therapy in anxiety patients. (linkinghub.elsevier.com/retrieve/pii/).
- Andreescu, Carmen, Belnap.(2008.Generalized anxiety disorder, elderly, severity scale.(findarticles.com /p/articles/mi) 14, 60–68.
- Boemer RJ (2000). Anxiety in elderly people. (/gsdl/collect/disserta/index/assoc). (1) 21 – 2, 5.
- Cairney. (2004). Elderly women are at greater risk of comorbid generalized anxiety and depression than (ebmh.bmj.com/content/7/2/56).
- Charles D. Spielberger (2004). The FEAR: A rapid screening instrument for generalized anxiety in elderly primary care attenders. (books.google.co.in/books?)
- Conrad, A. & Roth, W. T. (2006). Muscle relaxation therapy for anxiety disorders: It works buthow? (ww.streetdirectory. com/.../progressivew_ muscle_relaxation. html) 21.243-264.

- Flint, A. J. (2005). Epidemiology and comorbidity of anxiety disorders in the elderly(psychology.wikia.com/.../Depression).151(5).640-649)
- Flint.A. J. (1994)."Epidemiology and Co morbidity of Anxiety Disorders in the Elderly.(medicine.jrank.org/pages/120/Anxiety).151 640–649. American Journal of Geriatric Psychiatry(2008). (findarticles.com/p/articles/m)
- Irving B. Weiner, Donald K. Freedheim, John A. Schinka. (2003). Psychology

  Efficacy of progressive muscle relaxation for reducing state anxiety among elderly adults on memory tasks. Perceptual and Motor Skills (books. google. co.in /books ?isbn) 77.1395–1402.
- J Suhr (1999).progressive muscle relaxation (www.stolaf.edu/...)
- Krasucki. (1999). The FEAR: a rapid screening instrument for generalized anxiety in elderly primary care attenders (onlinelibrary. wiley. com /.../(SICI)1099-1166).
- Lenze. (2000). Comorbid Anxiety Disorders in Depressed Elderly Patients. (psychiatryonline.org/cgi/content/abstract/157/5/722). 190(4):344-349.
- Patricia A. Wisocki. (1991). An evaluation of progressive muscle relaxation. (books. google. co.in/books?isbn). 20, 309-314.
- Robb SL. (2000). Music assisted progressive muscle relaxation. (19.82.96. 197/ gsdl/ collect/disserta/index/assoc). 37(1) 21 – 2. 5.

APPENDIX – I A

COPY OF LETTER SEEKING PERMISSION TO CONDUCT RESEARCH STUDY

CHRISTIAN COLLEGE OF NURSING
C.S.I. KANYAKUMARI DIOCESE
(Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)
Approved by Indian Nursing Council New Delhi and Tamil Nadu Nurses and Midwives Council, Chennai
NEYYOOR - 629 802
KANYAKUMARI DISTRICT, TAMIL NADU, INDIA.

Principal
Prof. (Mrs.) SANTHI APPAVU, M.Sc.(N),M.Phil.
Phone : Per : 04651-221599, Off : 04651-221411

Fax : 04651-224382
E-mail : ccn.neyyoor@yahoo.com
Web : www.ccnneyyoor.org

Date : **26.04.2010**

62M.Sc(N)2010

To

The Director,
Old age home,
Mukkola,
Thiruvananthapuram.

Respected Madam,

Sub : Requisition for getting permission to do research study **to assess the effect of Progressive Muscle Relaxation Therapy In Reducing Anxiety Among The Elderly Residing In Selected Old Age Homes At Thiruvananthapuram District, Kerala.**

This is to introduce Mrs.Teena.S, II year M.Sc. Nursing student of this College. She is to conduct a research project which is to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfillment of University requirements for the award of M.Sc. degree in Nursing.

Topic:

A study to assess the effect of Progressive Muscle Relaxation Therapy In Reducing Anxiety Among The Elderly Residing in Selected Old Age Homes at Thiruvananthapuram District, Kerala.

This student is in need of your esteemed help and co-ordination as she is interested in conducting her research study in your well esteemed institution.

This is to request you to kindly extend necessary facilities to her work on her proposed study during the month of May and June 2010.

Yours Faithfully,

PRINCIPAL
CHRISTIAN COLLEGE OF NURSING
NEYYOOR - 629802
K.K.DIST., TAMILNADU

APPENDIX – I B

LETTER SEEKING EXPERTS OPINION FOR VALIDITY OF TOOL

From

Mrs. S.Teena
M.Sc (Nursing) II year,
Christian College of Nursing,
Neyyoor.

To

Respected Sir/Madam,

I am doing II year M.Sc Nursing in Christian College of Nursing, Neyyoor. As a partial fulfillment of the course, I have chosen a topic of my interest "**A study to assess the effect of progressive muscle relaxation therapy in reducing anxiety among the elderly residing in selected old age homes at Thiruvananthapuram district, Kerala."**

As an initial step, I have prepared demographic data and Zung's Self rating Anxiety Scale.

I hereby kindly request you to evaluate the tool based on the evaluation criteria. Your opinion and suggestions will help me to the successful completion of my study.

Thanking You,

Yours faithfully,

APPENDIX – I C

CERTIFICATE REGARDING COMPLETION OF PROGRESSIVE MUSCLE RELAXATION TECHNIQUE

KESAVAA HOSPITAL
Main Road, Kumaracoil, Thenkarai, Thuckalay (P.O.)
Kanyakumari District, Tamil Nadu.

Physiotherapy Consultant
Dr.BUBESH S MONY M.P.T (ortho),P.G.D.H.A
Iap No: 1204
Mobil No: 9443182859.

To whomsoever it may concern

This is to certify that Mrs. S.Teena 2nd year M.sc Nursing, Christian college of nursing, Neyoor has undergone training in PROGRESSIVE MUSCLE RELAXATION TECHNIQUE under my guidance from 15-04-2010 to 23-04-2010. During the period of training she was attentive and understood various techniques to the needed extent.

KESAVAA HOSPITAL THENKARAI, THUCKALAY Date 26/4/10

Sd/-

Dr. BUBESH S MONY M.P.T

APPENDIX – II A

EVALUATION CRITERIA CHECK LIST FOR TOOL VALIDATION

Instruction

The expert is requested to go through the following criteria for evaluation of check list. Three columns are given for response and a column for remarks. Kindly place a tick mark in the appropriate column and give remarks.

Interpretation of columns

Column I - Meets the Criteria
Column II - Partly meets the Criteria
Column III - Does not meet the criteria

S.No	Criteria	I	II	III	Remarks
1.	***Scoring***				
	• Adequacy				
	• Clarity				
	• Simplicity				
2	***Content***				
	• Logical sequence				
	• Adequacy				
	• Relevance				
3	***Language***				
	• Appropriate				
	• Clarity				
	• Simplicity				
4	***Practicability***				
	• It is easy to score				
	• Does it precisely				
	• Utility				

Any other suggestions ----------
-- ----------

Signature :
Name :

Designation :
Address :

APPENDIX – II B

LIST OF EXPERTS WHO HAVE VALIDATED THE TOOL

1. Dr.Blessed Singh, M.B.B.S., M.D.,
   Assisstant Professor,
   Department of Community Medicine
   Dr. SMCSI Medical College &Hospital,
   Karakonam,
   Trivandrum, South India.

2. Dr.Christina George, M.B.B.S., M.D., D.P.M
   Assisstant Professor,
   Department of Psychiatry
   Dr. SMCSI Medical College &Hospital,
   Karakonam,
   Trivandrum, South India.

3. Mrs. Beena,V.S.,
   Clinical Psychologist,
   Dr. SMCSI Medical &Hospital,
   Karakonam,
   Trivandrum, South India.

4. Mrs.S.Margret Ranjitham. M.Sc (N),
   Principal,
   Nehru Nursing College
   Thirunelveli.

5. Mrs. Y.V.Suja Baby, M.Sc(N),
   Associate Professor,
   Dr. SM CSI College of Nursing,
   Karakonam.

APPENDIX – III A

STRUCTURED QUESTIONNAIRE ON SELECTED DEMOGRAPHIC VARIABLES AND ZUNG'S ANXIETY SELF-RATING SCALE

The structured questionnaire consisted of two parts:

Section A

Demographic variables consisted of age, sex, education, previous occupation, marital status, dietary pattern, hobby and duration of stay in the old age home.

Section B

Zung's Self Rating Anxiety Scale consisted of 20 questions and the maximum score was 80.The score was interpreted as follows:

None or a little of the time - 1

Some of the time - 2

A good part of the time - 3

Most or all of the time - 4

The total score was converted into percentage and the result score was ranged as follows:

20-44 - Normal anxiety

45-59 - Mild to moderate anxiety

60-74 - Marked to severe

75-80 - Extreme Anxiety

SECTION-A

DEMOGRAPHIC DATA

Sample No:

1. Age

A. 53-59 years ☐

B. 60-64 years ☐

C. 65-69years ☐

D. above 70 years ☐

2. Sex

A. Male ☐

B. Female ☐

3. Education

A. Illiterate ☐

B. Primary ☐

C. Higher Secondary ☐

D. Graduate ☐

4. Previous occupation

A. Government job ☐

B. Private job ☐

C. Manual laborer ☐

D. Unemployed ☐

5. Marital status

A. Married ☐

B. Separated ☐

C. Widow ☐

D. Widower ☐

6. Dietary pattern

A. Non-vegetarian ☐

B. Vegetarian ☐

7. Hobbies

A. Yes ☐

B. No ☐

8. Religion

A. Hindu ☐

B. Christian ☐

C. Muslim ☐

9. Duration of stay in the old age home

A. 1 year ☐

B. 1-5 years ☐

C. > 5 years ☐

SECTION-B

ZUNG'S SELF-RATING ANXIETY SCALE (SAS)

Sl. No	Questions	None or a little of the time	Some of the time	A good part of the time	Most or all of the time
1	I feel more nervous and anxious than usual.				
2	I feel afraid for no reason at all.				
3	I get upset easily or feel panicky.				
4	I feel like I'm falling apart and going to				

Sl. No	Questions	None or a little of the time	Some of the time	A good part of the time	Most or all of the time
	pieces.				
5	I feel that everything is all right and nothing bad will happen.				
6	My arms and legs shake and tremble.				
7	I am bothered by headaches neck and back pain.				
8	I feel weak and get tired easily.				
9	I feel calm and can sit still easily.				
10	I can feel my heart beating fast.				
11	I am bothered by dizzy spells.				
12	I have fainting spells or feel like it.				
13	I can breathe in and out easily.				
14	I get feelings of numbness and tingling in my fingers and toes.				
15	I am bothered by stomach aches or indigestion.				
16	I have to empty my bladder often.				
17	My hands are usually dry and warm.				
18	My face gets hot flushes.				
19	I fall asleep easily and get a good				

Sl. No	Questions	None or a little of the time	Some of the time	A good part of the time	Most or all of the time
	night's rest.				
20	I have nightmares.				

Note:

- Each question carries a score of 1-4
- Total score range from 20-80

20-44 - Normal anxiety
45-59 - Mild to moderate anxiety
60-74 - Marked to severe
75-80 - Extreme anxiety

APPENDIX – IV

PROGRESSIVE MUSCLE RELAXATION TECHNIQUE

Progressive Muscle Relaxation therapy is defined as a treatment in which people are encouraged to relax their muscles to reduce tension.

BENEFITS

- Exercise releases endorphins, chemicals that promote good moods and positive thinking.
- Exercise also provides a good physical outlet for releasing that energy that tension builds up inside.
- Exercise increases blood flow to your brain, allowing it more oxygen, which has numerous advantages, including promoting clear thinking.

CAUTION

Before practicing Progressive Muscle Relaxation therapy, consult a physician to find out any history of serious injuries, muscle spasms or back problems, because the deliberate muscle tensing of the Progressive Muscle Relaxation therapy procedure could exacerbate any of these pre-existing condition.

PROCEDURE

- Take 3-5 deep abdominal breaths, exhaling slowly each time. As you exhale, imagine that tension throughout your body begins to flow away.
- Toes and feet.

  Tighten your feet by curling your toes downward. Feel the tension in your feet. Hold it and relax.
- Right arm and fore arm.

  Clench your fist of right arm. Feel the tensed muscle. Hold for 5 seconds. Then relax by the fingers extended feel how the muscle relaxed and the tension dropping from one's finger tips.
- Right biceps and triceps.

  With or without making a fist with your dominant hand and raise it towards your shoulders to tighten the biceps. Focus on the tension for 5 seconds and then relax.

  Tighten the triceps of the muscles on the underside of the upper arms by extending your arms out straight and locking your elbows. Hold and then relax.
- Left arm and fore arm.

  Same as for the right arm and forearm.
- Left biceps and triceps

  Same as for the right biceps and triceps
- Fore head.

Concentrate attention on your face. Raise your eyebrows as far as you can. Hold for 5 seconds then relax.

- Eyes

  Tense your muscles around your eyes by clenching your eyelids tightly shut. Hold them and relax .

- Neck(lateral)

  With the shoulders straight and relaxed, the head is turned slowly to the right, as far as you can and relax .Then turn to the left and relax. Next dig your chin into your chest; relax.

- Shoulders.

  Tighten your shoulders by raising them up as if you were going to touch your ears. Feel the tension in your shoulders. Hold it and relax.

- Chest

  Tighten muscles of your chest by taking a deep breath, hold it. Exhale completely. Relax.

- Stomach.

  Pull in the stomach far as possible; relax completely.

- Mentally scan your body for any residual tension. If so repeat one or two tense, relax cycles for that muscle group.
- Take 3-5 abdominal breaths.
- Now imagine a wave of relaxation slowly spreading throughout your body, starting at your head and penetrating every muscle group all the way done to your toes.
- Count backwards from 5 to 0.
- When you get zero, open your eyes and stretch a bit.

The entire progressive muscle relaxation should take you 20-30 minutes first time. With practice you may decrease the time needed to 15-20 minutes.

›Ö«‰¬¡ ™·«

1. ±œ¡ð«

   a) 53-~59 óðöæ® ☐

   b) 60~64 óðöæ® ☐

   c) 65~69 óðöæ® ☐

   d) 70 ›¤ »¤ˆø¢ý ☐

2. ò¢«Š«

   a) ÿ ☐

   b) ¨œÿ ☐

3. ó¢™¬¡Ÿ¬¡ö«

   a) ›¢ñÈñü ☐

   b) ±œ¡˜»¢ˆ œ¾¢´¥Ð« ☐

   c) —¢ñ¤™« ☐

   d) —¢ñ¤™¡Éñ —¢ñ¤™« ☐

4. ©›ñ¨·ð¤Ù¡ð¢ñ¤¼ ¨Ä¡ù¢ý

   a) öû´¡û ☐

   b) ö§ˆ¡ñ¬« ☐

   c) ˆ¥ò¢©óò ☐

   d) © ¡ò¢ð¢¿ ☐

5. ó¢ó¡÷¡óÌ

   a) ó¢ó¡÷¢Äû ☐

   b) —›®š« ©óû¨¸Ð¤·¢ðóû ☐

   c) ó¢šó ☐

   d) Ÿ¡ñ¬ »ñ¢µóû ☐

6. ÷¡ñ ñ£Ä¢.

   a) öö¬Ÿ¤´® ☐

   b) »¡«öŸ¤´® ☐

7. ó¢©›¡™«

   a) ƒÙ® ☐

   b) ,¿ ☐

8. »Ä«

   a) ÷¢³¤ ☐

   b) ±^¢ö®Ä¬ü ☐

   c) »¤ö®ò¢« ☐

9. ó¦Úö™›·¢¨ò Ä¡»ö ^¡ò«

   a) 1. óûõ« ☐

   b) 1--------- 5 óûõ« ☐

   c) 5 óûõ·¢›¤ »¤^ø¢ý ☐

XV

ö¹ö® ó¬¡ˆ¤òÄ •ø´¤¼ ƒœˆñÃ«

ö«‰¬¡	© ¡™¬«	ˆ¤úµ®ˆ¡ò«	óø¨ñ´¡ò«	†ú¢ðˆ¡ò«	…¿¡ˆ¡ò«
1.	Ç¡ü œÄ¢ó¢ò¤« ˆ¥Ð¤Äý ó¢ˆ¡ñó¢óôñ¤« ƒýˆÃ®-ð¤¾ó›¤»¡ð¢ ©Ä¡¼¤¼¤.				
2.	•ˆ¡ñÃ»¡ð¢ Ç¡ü Ÿð¨¸Ð¤¼¤.				
3.	Ç¡ü ¨œ¨¶¼® ö®Ä—®™›¡ˆ¤ˆð¤« (ö«±Ÿ»»¤¾ó›¤« Ÿ£Ä¢ð¤¾ó›¡ð¤«) ˆ¡Ã¨¸Ð¤¼¤.				
4.	Ç¡ü Ä¡¨ùó£Ã® ¢¼¢ ¢Äú¢ Äˆñ¤¼Ä¡ð¢ ©Ä¡¼¤¼¤.				
5.	ö«Ÿó¢´¤¼¨Ä¿¡« ôñ¢ð¡¨Ã¼¤« ©»¡ô»¡¨ð¡¼¤« ö«Ÿó¢´¢¿¡¨ð¼¤« …›¢´¤ ©Ä¡¼¤¼¤.				
6.	…¨Ê ¨¨ˆˆ¡ò¤ˆþ ˆ¤ò¹¢ó¢úµ® Äøñ¤¼Ä¡ð¢ ©Ä¡¼¤¼¤.				
7.	Äò©ó™›¨ˆ¡Ù¤« ˆù¤·¤©ó™›¨ˆ¡Ù® œ¤ú«©ó™›¨ˆ¡Ù¤« Ç¡ü ó¬¡ˆ¤ò›¡ˆ¤¼¤.				
8.	Ç¡ü ¨œ¨¶¼® Äøû¼ó›¤« È£Ã¢Ä›¤»¡ˆ¤¼Ä¡ð¢ ©Ä¡¼¤¼¤.				
9.	…›¢´® ô¡ÉÄ©Ä¡¼¤ˆð¤« ›¢öæ¡ñ»¡ð¢ ±œô¡ÉÄ©ð¡¨Ð ,ñ¢´¡›¤« ˆù¢ð¤¼¤.				
10.	…¨Ê ÷¦™ð« ©óŠ·¢ý ö®œ³¢´¤¼Ä® …›¢´® •ú¢ð¡ü ˆù¢ð¤¼¤.				

11.	Ç¡ü ©»¡÷¡òö¬ ›ˆ»¡ð »±ÉôˆÄ¢ð¡ý ©ˆëô¢´¨¸Ð¤¼¤.				
12.	…›¢´® ©—¡š« ›õ®Ð¨¸Ð¤·¤¼ »±ÉôˆÄ¢ˆø¤¨Ð ö¡›¢š¬»¤Ù® •¨¿Æ¢ý •Ä¤¾Ä¡ð¢ ©Ä¡¼¤¼¤.				
13.	…›¢´® òø¢Ä»¡ð¢ ô§¡©ö¡–§¡ö« ¨ à¡ü ˆù¢ð¤¼¤.				
14.	…¨Ê ¨¨ˆˆ¡ý ó¢ñò¤ˆþ´® »ñó¢¸¤«, ¨›¡Õ¤ ó¢úðò¤« •›¤Ÿó¨¸Ð¤¼¤.				
15.	Ç¡ü ƒ™ñ©ó›ð¤« ™÷›»¢¿¡ð®»ð¤« ¨ˆ¡Ù® ©ˆëô¢´¤¼¤				
16.	…›¢´® •Ð¢´Ð¢ »¥±Äó¢öû ›« ›Ð·Ã				
17	»¢´©¸¡ù¤« …¨Ê ˆñ¹þ óñÙÄ¤« ¸ø« ¥Ð¤¾Ä¤»¡Ã®.				
18	…¨Ê »¤‰« ó¢ˆ¡ñó¢©È¡œ»¤¾Ä¤« ö«±Ÿ¡É¢ð¤¾Ä¤»¡ˆ¤¼¤.				
19	Ç¡ü ¨œ¨¶¼® ›¢±™ð¢©òð®´® óù¤Ä¢ó£ù¤ˆð¤« ›¼¡ð¢ ó¢±ô»¢´¤ˆð¤« ¨ à¤¼¤.				
20	…›¢´® ™¤ûö§œ®›¹ø¤Ù®				

»¡û´®- 1-------4

₂₀-------₄₄ ö¡š¡ñÃ«

45-------59 »¢Ä«

60 -74ˆ¤úµ® ˆ¥Ð¤Äý

75 -80ˆ¥Ð¤Äý

±ˆ©»Ãð¤¾ ó¢±ô»¡óÌ

±ˆ©»Ãð¤¾ ó¢±ô»¡óÌ …¼¡ý ‡ñ¡ø¤¨Ð ö»ûÀ« ˆ¤úð®´¤ó¡ü ƒœ©ð¡Š¢´¤¼ ‡ñ¤ ¢ˆ¢Ä®ö¡ »¡ûŠê»¡Ã®.

¨ ©àÙ ñ£Ä¢.

1. ñÙ¤ ˆÃå¤ˆø¤« óø¨ñ ©ò¡ò»¡ð¢ •Ð®´¤ˆ.
2. »›öæ¢¨› öûá ö§Ä±É»¡´¢ óð®´¤ˆ.

3. ™¬»¡ð¢ ñÙ¤ œ¡™¹ø¤« ö»¡Éñ»¡ð¢ ¨ˆ¡Ù¤ óñ¤ˆ. ›¢ ˆ¡ò¢¨Ê ˆ¤ùð¤¨Ð Ÿ¡Š·® ¨óµ® ñÙ¤ œ¡™¹ø¤« ƒ¾¢©ò´¤ »Ð´¤ˆ. ›©¸¡þ œ¡™¹ø¢ý óò¢º¤ »¤ú¤ˆ¢ð¢ñ¢´¤¼¤. »¡«ö ©œô¢ˆø¤¨Ð •óÌ ó¬ˆ®Ä»¡ð¤« •ú¢ð¤ˆ. Ä¤Ðû¼® ó¢±ô»« …¼® œúð¤©Ø¡þ ñÙ¤ œ¡™¹ø¤« •ðµ¤ ó¢¶® œ¡™¹ø¢ò¤Ù¡ˆ¤¼ ó¢±ô»¡óÌ ó¬ˆ®Ä»¡ð¤« •ú¢ð¤ˆ.

4. ñÙ¤ œ¡™¹ø¤« ö»¡Éñ»¡ð¢ ¨ˆ¡Ù¤óñ¤ˆ œ¤ú©·´® ¥Ù¤ˆ. óò¢º¤ »¤ú¢ˆ¢ð¢ñ¢´¤¼Ä¤« 'ó¢±ô»«' …¼® œúð¤©Ø¡þ ó¢±ô»¡óÌ •ú¢ð¤ˆ.

5. ¨¨ˆˆþ »¤ú¤¨ˆ œ¢Ð¢´¤ˆ. ó¢±ô»« …¼® œúð¤©Ø¡þ ¨¨ˆó¢ñò¤ˆþ ó¢Ðû·¢ ó¢±ô»¢´¤ˆ.

6. ó¢ñò¤ˆþ »¤ú¤¨ˆ œ¢Ð¢´¤ˆ. »Ð´¢ ©Ä¡ò¢©ò´® ¨Ä¡Ð¤ˆ. 'ó¢±ô»«'..... …¼® œúð¤©Ø¡þ •ðµ¤ó¢Ð¤ˆ.

7. ñÙ¤ ©Ä¡ø¤ˆø¤« œ¤úˆ¢©ò´® óøð®´¤ˆ. ô§¡ö« œ¢Ð¢´ñ¤Ä®. ó¢±ô»« …¼® œúð¤©Ø¡þ ¨»¨¿ •ðð®´¤ˆ.

8. ˆÃå¤ˆþ Ä¤ú´¡¨Ä œ¤ñ¢ˆ¹ø¤ðû·¢ ¨›×¢ð¢ý ¤ø¢ó¤ˆø¤Ù¡´¤ˆ. ó¢±ô»« …¼¤ œúð¤©Ø¡þ œ¤ñ¢ˆ¹þ Ä¡ù®·¤ˆ.

9. ˆÃå¤ˆþ ,ú¤´¢ •Ðð®´¤ˆ. ó¢±ô»« …¼¤ œúð¤©Ø¡þ œÄ¤¨´ ˆÃå¤ˆþ •Ðð®´¤ˆ.

10. »›öæ¤« ó¢±ô»¡óÌð¢©òð®´® ±œ©óô¢´¤¼¤.

11. 2 ›¢»¢õ¹þ´¤ ©ôõ« 5, 4, 3, 2, 1 …¼® …Ãå¤ˆ ˆÃå¤ˆþ œÄ¤¨´ Ä¤ú´¤ˆ.

APPENDIX – V A

MASTER SHEET OF ANXIETY SCORE IN THE EXPERIMENTAL GROUP

Sample No:	Pre-test Anxiety score	Post-test Anxiety score	Sample No:	Pre-test Anxiety score	Post-test Anxiety score
1.	62	59	16.	73	48
2.	59	55	17.	68	54
3.	60	54	18.	64	59
4.	48	44	19.	60	46

5.	63	52	20.	60	51
6.	51	49	21.	56	52
7.	55	46	22.	70	59
8.	49	48	23.	63	58
9.	68	59	24.	62	46
10.	65	60	25.	53	48
11.	63	57	26.	49	44
12.	48	43	27.	64	55
13.	56	44	28.	67	51
14.	58	47	29.	63	48
15.	50	46	30.	68	53

APPENDIX – V B

MASTER SHEET OF ANXIETY SCORE IN THE CONTROL GROUP

Sample No:	Pre-test Anxiety score	Post-test Anxiety score	Sample No:	Pre-test Anxiety score	Post-test Anxiety score
1.	56	54	16.	63	60

2.	60	59	17.	63	60
3.	71	71	18.	63	62
4.	64	60	19.	67	66
5.	68	66	20.	65	65
6.	66	69	21.	60	60
7.	66	66	22.	49	52
8.	59	60	23.	55	53
9.	55	55	24.	53	53
10.	60	59	25.	64	65
11.	69	68	26.	47	46
12.	56	59	27.	68	68
13.	50	50	28.	61	62
14.	63	62	29.	56	58
15.	62	62	30.	54	55